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Public Health and Marine-Hospital Service of the United States

HYGIENIC LABORATORY.—BULLETIN No. 75

APRIL, 1911

DIGEST OF COMMENTS

ON THE

PHARMACOPŒIA OF THE UNITED STATES
OF AMERICA

[EIGHTH DECENNIAL REVISION]

AND THE

NATIONAL FORMULARY

[THIRD EDITION]

FOR THE CALENDAR YEAR ENDING DECEMBER 31

1908

BY

MURRAY GALT MOTTER

AND

MARTIN I. WILBERT



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PREFACE.

The pharmacopœial literature for the year 1908 is particularly noteworthy for contributions that should serve to arouse a widespread demand for international uniformity, not only in the strength of official medicaments, but also in nomenclature and the requirements made in connection with chemical tests to establish the identity and purity of official articles.

With the progress of pharmacopœial work the importance of greater uniformity in nomenclature becomes more and more evident, and the need for some international agreement in regard to Latin titles would appear to be highly desirable. The rapidity with which medical literature travels and the speed with which new discoveries become general property should serve to suggest the desirability of some concerted attempt, in the near future, to correct existing abuses in connection with the nomenclature of official drugs and preparations.

While the imperative need for concerted action regarding international uniformity in matters pharmacopœial was discussed at some length by Danckwortt, Wulff, and others in papers referred to in the pages of this bulletin, the Pharmacopœias of France, Sweden, and Servia, which were published during the year, serve to illustrate the need for greater uniformity in nomenclature and strength of official preparations in a way that must appeal to all who are in any way actively interested in the Pharmacopœia and its content. While each of the three books mentioned has made certain concessions, and all have, in fact, included the standards and formulas embodied in the Brussels Protocol, there is, nevertheless, a very marked difference in the official nomenclature.

The French Codex classifies official substances under their French titles and gives the Latin name only as a subtitle or synonym.

The Swedish Pharmacopœia, in compliance with an agreement entered into with the other Scandinavian countries in 1865, uses the older Berzelian nomenclature which is strangely at variance with the Latin names appearing in the German, Swiss, and Austrian Pharmacopœias, which were also adopted in the new, second, edition of the Servian Pharmacopœia.

With the single exception of the British Pharmacopœia, practically all of the pharmacopœias published by the countries subscribing to the protocol of the Brussels Conference have now been revised, and the men who were instrumental in developing the international conference for the unification of pharmacopœial formulæ for potent medicaments are to be congratulated on the fact that, with the single exception of the United States, all of the powers subscribing to the international treaty of 1906 have closely followed, if not fully adopted, the Brussels Conference Protocol.

The meetings of both the American Medical Association and the American Pharmaceutical Association, held during the year 1908, were characterized by the manifestation of an unusual interest in the forthcoming revision of the Pharmacopœia of the United States.

At the meeting of the American Medical Association pharmacopœial matters were discussed at some length in the sessions of the section on pharmacology and therapeutics, and future interest in the same subject was assured by the organization of a standing committee on the Pharmacopœia of the United States, which is destined to serve as a clearing house for the views of physicians regarding the national Pharmacopœia.

At the meeting of the American Pharmaceutical Association, the committee on the U. S. P. of that association was reorganized with a view of taking a more active part in preparing for the forthcoming revision of the Pharmacopœia of the United States.

One rather interesting development during the year 1908 was the apparently widespread dissatisfaction with the unnecessary increase of fixed formula preparations and the tendency which preparations of this kind have to restrict rather than to further the development of the sciences relating to medicine. Messrs. Mittelbach and Blair, in contributions presented to their respective State pharmaceutical associations, point out that fixed formulas tend to restrict natural development in pharmacy, while the comments made by Fussell and others in meetings of medical associations clearly show that fixed formulas have a directly degrading influence on the medical practitioner.

In Great Britain the objections to the introduction of a great number of complex pharmaceuticals have, in a measure at least, been obviated by the compilation and publication of local formularies. Many of these formularies, notably those published in Scotland, were compiled with the consent and in some instances with the assistance of the local medical societies and so obtained a quasi-official standing. As a rule, they were intended to meet the demands of the locality in which they were issued and general uniformity was secured by adhering, wherever practicable, to the formulas published in the British Pharmaceutical Codex.

The National Formulary is now in active course of revision and the American Pharmaceutical Association has virtually decided to develop this book into a comprehensive extra pharmacopœial compendium of drugs and preparations used in the several sections of the United States. A book of this kind will supply standards and tests for a number of articles not now included in the Pharmacopœia.

Continued interest was manifested during the year in the objections made by members of the National Association of Retail Druggists to the publication of criticisms on the U. S. P. and the N. F. by pharmaceutical journals as mentioned in the "Digest of Comments" for 1907 (Hyg. Lab. Bul. No. 63, p. 28). Many, if not all, of the editors of pharmaceutical and drug journals voiced the opinion that, irrespective of whether such criticisms are well or ill founded, there is no valid reason for the conclusion that the critics are necessarily public enemies, and further that all honest criticism is destined to promote progress.

The announcement that the Surgeon General of the Public Health and Marine-Hospital Service, with the consent and approval of the Secretary of the Treasury, had decided to accede to the request of the board of trustees of the U. S. P. Convention and provide for the compilation and publication of the comments that have been and are being made on pharmacopœial matters, attracted considerable attention and was favorably commented on in both medical and pharmaceutical journals.

One editor (Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 300) in commenting on the proposed publication of a series of bulletins containing comments on the U. S. P. asserts that this is by far the most important recognition which the Government has ever given to pharmacy and will no doubt lead to still further cooperation between the United States Pharmacopœial Convention and this department of the Government.

Another editor (Am. Druggist, N. Y., 1908, v. 53, p. 123), in commending the proposed publication of digests of comments on the U. S. P. VIII, points out that the comments on previous revisions of the U. S. P., while of direct advantage to those for whose use they were specially compiled, were of value to all who were interested in pharmacopœial revision and in the progress of pharmacy generally.

As pointed out in previous bulletins, the difficulty experienced in securing access to files of current periodicals is becoming more and more acute as the work is being brought up to date, and it would appear that, unless the files of journals directly available to the compilers can be added to, it will be impracticable to continue the "Digest" in as complete a form as would appear to be desirable in a reference book of this kind.

These bulletins or "Digests of Comments" should be of value primarily as a reflection of the work done in connection with pharmacopœial revision and as a guide for the avoidance of unnecessary duplication of observation and original work already recorded in connection with official substances.

To a lesser degree, perhaps, they are also of importance as reflecting the kind of remedies that are being actively used and discussed by medical practitioners and are, therefore, of value as a basis for determining the scope of future Pharmacopœias.

For the teacher or the student of materia medica, pharmacy, and related subjects, they offer a comprehensive review of the literature on the subjects in which he is interested, and will no doubt of themselves be suggestive of the need for much original work in connection with the several official articles.

The abstracts from the Journal of the American Medical Association included in this bulletin were compiled by Dr. Robert A. Hatcher, professor of pharmacology and materia medica, Cornell University Medical School, New York, while temporarily connected with the Hygienic Laboratory of the Public Health and Marine-Hospital Service.

The thanks of the compilers are due to the librarians of the United States Department of Agriculture, the Office of the Surgeon General of the United States Army, the Library of Congress, Washington, D. C., and to the Philadelphia College of Pharmacy, the Franklin Institute, and the College of Physicians, Philadelphia, for the use of the files of the several periodicals not in the library of the Hygienic Laboratory.

The thanks of the compilers are also due and are herewith extended to Prof. John Uri Lloyd and to the Lloyd Library, as well as to the secretaries of the several National and State organizations or associations for copies of proceedings and annual reports used in compiling the material herewith presented.

As illustrating the appreciation accorded the work of the Hygienic Laboratory in connection with pharmacopœial revision, the report of the board of trustees (see Abstract of Proceedings, United States Pharmacopœial Convention, 1910, pp. 21-22) calls attention to Bulletin 23 and states further that:

The Surgeon General has had prepared by the Hygienic Laboratory a compilation and digest of criticisms and comments upon the Pharmacopœia, which have appeared in two bulletins, numbered, respectively, "49" and "58."

The completeness and great value of these digests as aids to more perfect pharmacopœia revision are so well known that further comment would be altogether superfluous. A third bulletin of comment and criticisms has been prepared, and its appearance is expected at an early date.

In addition to the compilation referred to, certain investigations have been carried on in the Hygienic Laboratory respecting the solubilities and melting

points of official substances. The results obtained have been of great value and will prove of material benefit to the next committee of revision.

It is the opinion of the board of trustees that the United States Public Health and Marine-Hospital Service should receive the thanks of the U. S. P. Convention for these contributions to the conservation of the public health and to the progress of American medicine and pharmacy.

The special committee, to which was referred this report of the board of trustees, reported to the convention (*loc. cit.*, p. 35) that:

We give our hearty indorsement to the expression of thanks for the aid rendered by the Public Health and Marine-Hospital Service to the board of trustees, and believe that this recognition should take the tangible form of a letter from the secretary of the convention to the Surgeon General of this department.

This report was unanimously adopted by the convention, and, at the concluding session, the members of the United States Pharmacopœial Convention unanimously adopted (*loc. cit.*, p. 63) a motion by Prof. J. P. Remington that a special vote of thanks be tendered the Public Health and Marine-Hospital Service for the valuable aid given the committee of revision in the publication of the Digests and in other work.

The compilers regret to announce that the appropriation of something less than one hundred dollars per annum, given by the board of trustees during 1909 and 1910 for foreign pharmacopœias and journals to be used in the preparation of these Digests, has not been renewed by the present board of trustees for the coming year. They are pleased, however, to acknowledge with thanks the interest of the editors and publishers of a number of pharmaceutical and other journals which has been manifest not only in kindly comment, but in the receipt of their respective publications at the laboratory; special mention is to be made of the valued and growing list of foreign exchanges, among which are to be noted the following:

The Journal of the Society of Chemical Industry, London.

The Pharmaceutical Journal, London.

The Chemist and Druggist, London.

The British and Colonial Druggist, London.

The Chemist and Druggist of Australasia, Melbourne.

The Canadian Pharmaceutical Journal, Toronto.

The Montreal Pharmaceutical Journal, Montreal.

Archiv der Pharmazie, Berlin.

Therapeutischen Monatshefte, Berlin.

Pharmaceutisch Weekblad, Amsterdam.

Bulletin de la Société, royal de Pharmacie de Bruxelles.

Pharmazeutische Post, Vienna.

Bolletino Chimico Farmaceutico, Milan.

La Terapeutica Moderna, Mexico.

Pharmazeutische Zeitung, Berlin.

Folia Therapeutica, London.

Journal de Pharmacie d'Anvers.

The Canadian Druggist, Toronto.

Zeitschrift des allgemeinen österreichischen Apotheker-Vereines, Wien.

Pharmazeutische Zentralhalle, Dresden.

Year-Book of Pharmacy, London.

Bulletin de Pharmacie du Sud-Est, Montpellier.

In conclusion, the compilers again desire to express their appreciation of the suggestions that have been received for enlarging on and perfecting these bulletins, and beg to assure the officers of the Public Health and Marine-Hospital Service, and others who may have such suggestions to offer, that, in so far as is possible, they will be utilized.

M. G. M.

M. I. W.

DIVISION OF PHARMACOLOGY,

HYGIENIC LABORATORY,

January 10, 1911.

LIST OF THE LITERATURE REVIEWED.

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- Pharm. J., Lond.—Pharmaceutical Journal, London, 1908, v. 26, 27. (Old series, v. 80, 81.)
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- Pharm. Rev., Milwaukee.—Pharmaceutical Review, Milwaukee, 1908, v. 26.
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- Proc. Kansas Pharm. Ass., 1908.
- Proc. Kentucky Pharm. Ass., 1908.
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- Proc. Maine Pharm. Ass., 1908.
- Proc. Maryland Pharm. Ass., 1908.
- Proc. Massachusetts Pharm. Ass., 1908.
- Proc. Michigan Pharm. Ass., 1908.
- Proc. Minnesota Pharm. Ass., 1908.
- Proc. Missouri Pharm. Ass., 1908.
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- Proc. Pennsylvania Pharm. Ass., 1908.
- Proc. South Carolina Pharm. Ass., 1908.
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TITLE ABBREVIATIONS—PHARMACOPŒIAS AND NONOFFICIAL STANDARDS.

- Ph. Austr. VIII.—Pharmacopœa Austriaca, editio octava, 1906.
- Ph. Belg. III.—Pharmacopœa Belgica, editio tertia, 1906.
- Ph. Brit. IV.—British Pharmacopœia, 1898.
- Ph. Dan. VII.—Pharmacopœa Danica, 1907.
- Ph. Fr. V.—Codex Medicamentarius Gallicus, Pharmacopée Française, 1908.
- Ph. Germ. V.—Arzneibuch für das Deutsche Reich (Pharmacopœa Germanica, editio V), 1910.
- Ph. Helv. IV.—Pharmacopœa Helvetica, editio quarta, 1907.
- Ph. Hisp. VII.—Farmacopea oficial española, séptima edición, 1905.
- Ph. Hung. III.—Pharmacopœa Hungarica, editio tertia, 1909.
- Ph. Ital. III.—Farmacopea ufficiale del regno d'Italia, terza edizione, 1909.
- Ph. Japon. III.—Pharmacopœia Japonica, 1906 (English Translation, 1907).
- Ph. Ndl. IV.—Pharmacopœa Nederlandica, editio quarta, 1905.
- Ph. Norv. III.—Pharmacopœa Norwegica, editio tertia, 1895.
- Ph. Port.—Pharmacopœa Portugueza, 1876.
- Ph. Rom. III.—Pharmacopœa Romana, editio tertia, 1893.
- Ph. Russ. VI.—Pharmacopœa Rossica, editio sexta, 1910.
- Ph. Serb. II.—Pharmakopœa Serbica, editio secunda, 1908.
- Ph. Svec. IX.—Svenska Farmakopén (Pharmacopœa Svecica, ed. IX), 1908.
- U. S. P. VIII.—Pharmacopœia of the United States of America, 8th Decennial Revision, 1905.
- N. F. III.—The National Formulary of Unofficial Preparations, Baltimore, 1906.
- N. N. R.—New and Nonofficial Remedies, Chicago, 1908.
- B. P. C.—British Pharmaceutical Codex, London, 1907.



DIGEST OF COMMENTS ON THE PHARMACOPŒIA OF THE UNITED STATES OF AMERICA, VIII, AND ON THE NATIONAL FORMULARY, III.¹

I. GENERAL COMMENTS.

1. LEGAL STATUS AND DEVELOPMENT.

1. PURE FOOD AND DRUGS LAW.

McCotter, S. G., states that the national food and drugs act has apparently been working satisfactorily; the unreasonable features will in time be eliminated.—Proc. N. W. D. A., 1908, p. 151.

An editorial asserts that the food and drugs act of June 30, 1906, is demonstrating its value, and while it is true that in minor points it might be improved, it would, nevertheless, be wise for Congress to allow the present law to be thoroughly tried before changing it.—Apothecary, Boston, 1908, v. 20, p. 66.

Sayre, L. E., asserts that inquiry has elicited the general expression of opinion that the practical results following the enactment of the Federal pure food and drugs laws have been most markedly beneficial.—Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 240.

Carter, Fred L., calls attention to the difficulty that has arisen in connection with the enforcement of the food and drugs law during 1907, and points out some of the changes that have been made in the several State laws.—Proc. N. W. D. A., 1908, pp. 34–38.

Kebler, L. F., discusses the educational value of the food and drugs act, particularly on the other branches of the Government.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 659–663.

An editorial asserts that, as the atmosphere clarifies, the criticisms and objections to the pure food and drugs law are less numerous than anticipated. The improvements that have been embodied in some of the State laws have proven to be irksome, and manufacturers who do an interstate business find themselves subject to the Federal law and to numerous State laws with varying requirements.—Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 2.

McKesson, Donald, states that the law of 1848, which said that all drugs should be governed by the pharmacopœias of Edinburgh and London and Germany and France and any book of standard authority, should be absolutely repealed and not amended, as the

¹ Manuscript submitted for publication, January 10, 1911.

matter is entirely covered by the food and drugs act of 1906.—*Proc. N. W. D. A.*, 1908, p. 200.

An editorial comments on the conflict between the old 1848 import law and the food and drugs act of June 30, 1906.—*Pharm. Era*, N. Y., 1908, v. 40, p. 660. (See also *Am. Druggist*, N. Y., 1908, v. 53, p. 279, and *Oil, Paint and Drug Reporter*, N. Y. 1908, v. 74, Dec. 7, p. 7.)

Kebler, L. F., is reported as pointing out that the law of 1848 was in no way antagonistic to the food and drugs act of June 30, 1906, and that the latter superseded it in all of its essential features.—*Oil, Paint and Drug Reporter*, New York, 1908, v. 74, December 7, pp. 16-17.

Schieffelin, William J., asserts that, so far as the drug trade is concerned, the manufacturers and dealers have conscientiously endeavored to comply with the provisions of the various laws. This is demonstrated by the public statement of a high Government official to the effect that the members of the drug trade, as a rule, have shown a most commendable disposition to conduct their business in harmony with the requirements of the national law.—*Proc. N. W. D. A.*, 1908, p. 224.

Kline, M. N., calls attention to legislation relative to the drug trade and points out the several changes in State laws that have been enacted.—*Ibid.*, pp. 236-252.

Vanderkleed, Charles E., points out that the national food and drugs act makes it possible for pharmacists to secure goods of high quality, and it remains with them to live up to their responsibilities to their patrons.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 66.

An editorial points out that the number of papers on pharmacy read at the recent meeting of the Association of State and National Food and Dairy Departments clearly reveals the fact that the members of this association have begun to take the drug aspect of their work seriously.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 257-262.

Barnard, H. E., notes an improvement in the character of the drugs sold in Indiana, which he attributes to the passage of the law of March 1, 1908. In 1906 the percentage of adulteration was 66.6; in 1907, 52.9; and in the current year it fell to 47.29.—*Rep. Indiana Bd. Health*, 1908, p. 315.

Wilbert, M. L., asserts that the retailer, whether he wants to or not, will be required to assume responsibility for all substances sold or dispensed other than those sold in the original package.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 45.

Sayre, L. E., calls attention to some of the unforeseen problems connected with the food and drugs law and suggests that something should be done in the near future looking toward the proper and fair solution of the patent-medicine problem, the magnitude of which was

unforeseen before this law went into effect.—*Merck's Rep. N. Y.*, 1908, v. 17, pp. 4-6.

Mitchell, Charles L., criticizes the Mann drug bill, which he characterizes as an instance of paternalism in drug legislation.—*Pharm. Era, N. Y.*, 1908, v. 40, pp. 329-332.

A list of the officials charged with the enforcement of food laws in the United States and Canada is presented.—*Bur. Chem. Circular No. 16, Revised, October 27, 1908, p. 36.*

2. THE PHARMACOPŒIA AS A LEGAL STANDARD.

Wiley and Kebler discuss the Pharmacopœia as a legal standard and point out the recognition that has been accorded to the several editions of the Pharmacopœia of the United States and the desirability of adhering strictly to the standards established by the Pharmacopœia.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, pp. 193-198.

An editorial asserts that the board of food and drug inspection of the United States Department of Agriculture has recently announced the ruling that:

In the opinion of the board any article recognized in the United States Pharmacopœia which deviates from the standard set by this authority is improper, unsafe, and dangerous for medical purposes.

And concludes:

In view of this official announcement that the present Pharmacopœia is faultless, ought not the U. S. P. Convention of 1910 be "called off," since some of the meddlesome delegates are sure to propose changes, and may even cause them to be made. And since it is so easy to cover imperfections by resolution, would it not be a good idea for the board to try its hand on the National Formulary also?—*Midland Druggist*, 1908, v. 10, p. 150.

Kebler, L. F., in discussing the enforcement of Federal and State food and drugs acts asserts that the feature standing out most prominently is the lack of standards and recognized methods for detecting the presence and determining the amounts of many active medicinal agents. Even some of the methods available and standards set are found wanting.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 94. (*Bul. Bur. Chem. U. S. Dept. Agric.*, 1909, No. 122.)

Remington, Joseph P., says that a pharmacopœia, to be a real living force, must be practical, and its standards must be attainable, but this does not mean that they should be unnecessarily low, and it would be a lasting disgrace to the Nation if this country were to be generally known as the dumping ground for the lowest grade of foreign drugs and chemicals.—*Proc. N. W. D. A.*, 1908, p. 202. (See also *Pharm. J. Lond.*, 1908, v. 27, pp. 461-462.)

An editorial asserts that with the passage of the food and drugs act, the influence of the Pharmacopœia has been extended far beyond the dreams of its most ardent supporters and interests which were formerly indifferent as to the work of the pharmacopœial revision committee are now keenly alive to every proposed change in pharmacopœial standards.—Meyer Bros., Drug., St. Louis, 1908, v. 29, p. 369.

An editorial asserts that, so long as the Pharmacopœia was of purely academic interest, manufacturers paid little attention to it or its requirements, but now manufacturers are keenly alive to the importance of furnishing information to the revision committee and even demand representation on the committee itself.—Am. Druggist, N. Y., 1908, v. 53, p. 166.

Pearson, W. A., reviews the Pharmacopœia from the viewpoint of an analytical worker and calls attention to a number of shortcomings of the tests and descriptions.—Am. J. Pharm., Phila., 1908, v. 80, p. 75.

A news note calls attention to the bill introduced by Senator Gallinger to amend the food and drugs act by the addition of the Homœopathic Pharmacopœia of the United States to the paragraph providing for the recognition of the U. S. P. and the N. F.—Pharm. Era., N. Y., 1908, v. 39, p. 46.

An editorial discusses the proposed adoption of the Homœopathic Pharmacopœia as a standard under the food and drugs law, points out some of the possible complications that might arise and also calls attention to the fact that there are at least two homœopathic pharmacopœias more or less widely used in this country.—Am. Druggist, N. Y., 1908, v. 52, pp. 3-4. See also p. 13.

The members of the American Institute of Homœopathy present at the Kansas City meeting of that association adopted resolutions asking that all homœopathic pharmacists prepare their remedies on and after January 1, 1909, according to the Homœopathic Pharmacopœia of the United States.—Tr. Am. Inst. Homœop., 1908, p. 90.

Clapp, J. W., reviews the Homœopathic Pharmacopœia of the United States and presents a plain statement of facts regarding it. He points out that this pharmacopœia is the result of many years of labor and has received the highest encomiums by competent critics.—Hahnemann Month., Phila., 1908, v. 43, pp. 331-337. (See also pp. 561-567, 771-774.)

Anschutz, E. P., in discussing the shortcomings of the Homœopathic Pharmacopœia of the United States, points out that while the recognition of homœopathy is a very desirable thing it is not desirable as a Greek gift. He asserts that the recognition of the new pharmacopœia by the United States Government, as proposed, would limit homœopathic attenuation or potency to the 12th centesimal.—*Ibid.*, pp. 939-941.

3. SUPPLEMENT TO THE PHARMACOPŒIA.

The N. A. R. D. committee on the U. S. P. and N. F. propaganda recommends that the trustees of the pharmacopœial convention be requested to instruct the revision committee of the United States Pharmacopœia to make such changes in the Pharmacopœia as experience has proven are necessary, without delay.—*Am. Druggist*, N. Y., 1908, v. 53, p. 190.

Hatcher, R. A., thinks that the issuing of frequent partial revisions or supplements to the Pharmacopœia is entirely feasible, and points out that the work of the council on pharmacy and chemistry has shown that it is not at all difficult to make constant additions to a work of this kind.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 214.

Main, Thomas F., reports that a very few complaints of standards and tests of the Pharmacopœia have reached his committee during the year, and that no communications have been received regarding the National Formulary.—*Proc. N. W. D. A.*, 1908, p. 195.

Remington, Joseph P., recounts the conditions which led to the conference between manufacturing chemists, wholesale druggists, and the committee of revision, and to the subsequent issue of a supplement in the form of additions and corrections to the eighth revision.—*Ibid.*, p. 204. (See also *Pharm. J.*, Lond., 1908, v. 27, pp. 461–462.)

“Krino” asserts that the U. S. P. additions and corrections are extensive and peculiar, mainly because they appear to have been largely suggested by the passing of the United States national food and drugs act, 1906.—*Pharm. J.*, Lond., 1908, v. 26, p. 829.

An editorial, commenting on the proposed revision at five-year intervals, expresses the belief that it would be better to adhere to the revision of the work every 10 years, providing such changes as are absolutely necessary can be made by the publication of a supplement as was done by the committee in 1906.—*Am. Druggist*, N. Y., 1908, v. 53, p. 166.

An editorial in commenting on the proposal that the U. S. P. be revised once in five years expresses the belief that the delegates to the 1910 convention will go instructed to vote for a more frequent revision.—*Meyer Bros. Drug.*, St. Louis, 1908, v. 29, p. 337.

4. THE PHYSICIAN AND THE PHARMACOPŒIA.

An editorial points out that while the medical profession is entitled to have a voice, and it may be conceded a commanding voice, in what goes in and what goes out of the Pharmacopœia, it must be remembered that the vast population and vaster country, with varied territories stretching half around the world have an equal if not a paramount interest in the work which sets the standards for

drugs and medicines by authority of the Congress of the United States.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 164.

Remington, J. P., asserts that it is the province of therapeutics to indicate and select the drug, while the form of administration is left to pharmacy.—Am. J. Pharm., Phila., 1908, v. 80, p. 457.

Sollman, Torald, discusses the Pharmacopœia as the standard for medical prescribing and points out that the usefulness of the Pharmacopœia to the physician is coincident with the usefulness of the remedies which it contains.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, pp. 166-184.

Osborne, O. T., discusses the sufficiency of the official drugs and preparations in the medicinal treatment of disease.—*Ibid.*, pp. 128-138. (See also J. Am. M. Ass., 1908, v. 51, pp. 1477-1482.)

Resolutions adopted by the section on pharmacology and therapeutics approve of pharmacopœial revision and the efforts to determine the exact value of therapeutic agents, and conclude that this section tenders its active support to the committee of revision of the U. S. P. and to the American Pharmaceutical Association in their efforts to improve the existing legal standards.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 260.

Davy, Henry, asserts that the medical profession wants to know the best and most efficacious preparations of the various drugs, and chemists would do well to reduce their stocks to active preparations and these only.—Pharm. J., Lond., 1908, v. 26, p. 290.

Merritt, A. H., discusses some of the pharmacopœial preparations of interest to the members of the dental profession, and asserts that the employment of standard preparations would discourage the use of many proprietary articles which are more or less worthless.—Dental Digest, 1908, v. 14, p. 913.

Hatcher, Robert A., calls attention to the lack of a proper interest in the Pharmacopœia on the part of physicians, and appeals to the association to take steps to secure a proper representation in the next revision.—J. Am. M. Ass., 1908, v. 50, pp. 30-34.

Fussell, M. Howard, believes that the greatest reason for the existence of evident defects in the U. S. P. and N. F. are ignorance, indolence, and cupidity on the part of the physician, manufacturing chemist and pharmacist.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 13.

At an informal conference of the teachers of materia media and therapeutics in the medical schools of Philadelphia, called by Joseph P. Remington, the following resolution was adopted:

Resolved, That it is of the utmost importance for accuracy in prescribing, and in the treatment of disease, that students of medicine be instructed fully as to those portions of the Pharmacopœia of the United States which are of value to the practitioner, and that members of the medical profession be urged

to prescribe the preparations of that publication, and further, that this resolution be forwarded to the medical and pharmaceutical journals, and to the teachers of medicine and therapeutics in the United States.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 147.

Jenne, J. N. points out that teachers of *materia medica* give instruction in other than pharmacopœial remedies because they know that the student who goes out with no knowledge of the extra-pharmacopœial remedies and preparations would stand little chance of success before State boards.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 141.

Sollmann, Torald, discusses "The Pharmacopœia as a standard for medical prescribing," and makes suggestions for the forthcoming revision.

Anders, James M., discusses "The need of more intimate knowledge of the U. S. Pharmacopœia and the National Formulary among physicians."

Wiley and Kebler discuss "The Pharmacopœia as a legal standard."

The discussion of these papers follows.—*J. Am. M. Ass.*, 1908, v. 51, pp. 2013–2022; 2025–2028.

Remington, Joseph P., states that, among the reasons given by the physician for the neglect of the Pharmacopœia, has been the so-called inability to secure from the retail druggist medicines of known quality and uniform strength.—*Proc. N. W. D. A.*, 1908, p. 208. (See also *Pharm. J. Lond.*, 1908, v. 27, pp. 461–462.)

Sollmann, Torald, reviews "The Pharmacopœia and the Physician," and points out the object and the utility of this volume.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 237.

5. U. S. P. CONVENTION REPRESENTATION.

Remington, Joseph P., calls attention to the fact that the United States Pharmacopœial Convention is a continuing body, with a charter issued by the District of Columbia, and while the board of trustees and the committee of revision will change every 10 years, the convention itself retains its permanency.—*Proc. N. W. D. A.*, 1908, p. 205. See also *Pharm. J. Lond.*, 1908, v. 27, pp. 461–462, and *Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 212.

An editorial in commenting on representation in the coming pharmacopœial convention calls attention to the need of complying with the request of the committee on credentials for accurate information regarding the date of incorporation and age of the institution or organization.—*Meyer Bros. Drug.*, St. Louis, 1908, v. 29, p. 369.

An editorial (*Drug. Circ. N. Y.*, 1908, v. 52, p. 300) suggests that the delegates to the pharmacopœial convention should be men in favor of maintaining the high standards for drugs set by the con-

vention and its committee of revision before the passage of the food and drugs act. They should see that commercial men with selfish ends to gain do not step in and overturn the structure which professional men in medicine and pharmacy have been unselfishly working to perfect for nearly a century.

Needham, R. H. (*Ibid.* p. 384) commends the above editorial as very opportune, and says we must exercise eternal vigilance to have a committee appointed that shall be composed of scientific men of such fiber as to prevent any chicanery whatever.

Main, Thos. F., suggests that the members of the N. W. D. A. keep the selection of druggists with special knowledge of the drug market, as delegates to the United States Pharmacopœial Convention before them, and when the time comes for the election or appointment of delegates they endeavor to secure the selection of persons with the required knowledge.—*Proc. N. W. D. A.*, 1908, p. 196. See also p. 211.

Remington, J. P., asserts that the members of the medical profession were asked to come to the meetings of the pharmacopœial convention, but the fact remains that the members of the medical profession have not cared for the Pharmacopœia in the past.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 210.

Anderson, William C., in commenting on the origin of the Pharmacopœia of the United States, points out the nature of the representation in the earlier conventions.—*Apothecary*, Boston, 1908, v. 20, p. 284.

6. COMMITTEE OF REVISION.

Sollmann, Torald, discusses some of the disadvantages of the present method of revision, and the desirability of a change in the organization of the revision committee, also outlines a general working method for revising the Pharmacopœia of the United States.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, pp. 166–184.

He thinks that the committee of revision proper should consist almost entirely of pharmacists, and that the committee on admission should be elected directly, independently, but to work in association with the committee on revision.—*Ibid.*, p. 218.

An abstract asserts that present methods of revision would be improved by having a smaller committee, a central laboratory, regular supplements, perhaps annual, and a considerable degree of publicity; the secrecy in which the committee has always been shrouded should be abandoned.—*Drug. Circ. N. Y.*, 1908, v. 52, p. 13.

Remington, Joseph P., asserts that the experiences that have been gained during the past year will be of incalculable value to the committee in its future work. He believes that standards should be such as are attainable and not too high.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 45.

The N. W. D. A., at the last two annual meetings of this body, adopted a resolution to the effect that—

It is the sense of this association that there should be added to the committee of revision of the Pharmacopœia several chemists of large experience in manufacturing, and one or more druggists who are thoroughly familiar with the drug markets of the world.—Proc. N. W. D. A., 1907. 1908.

An editorial in commenting on this resolution, expresses the belief that pharmacy would be decidedly the gainer by broadening as much as possible the committee of revision and commends the plan of the jobbers.—Am. Druggist, N. Y., 1908, v. 53, p. 219.

Puckner, W. A., points out that the work connected with the revision of the Pharmacopœia is going to be much less arduous than heretofore, because of the large amount of scientific work that has been done.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 215.

Remington, Joseph P., points out that the board of trustees has nothing whatever to do with the making of the Pharmacopœia. They can not say whether certain tests shall go up to 0.714 or 0.716. That is the function of the committee of revision. The board of trustees is the business and financial end of the organization. They accept or reject the bids for publishing and marketing the book, and therefore, whenever any communication is addressed to the board of trustees regarding any detail as to the text in the book of standards or tests, they refer it to the committee of revision.—Proc. N. W. D. A., 1908, p. 209.

Wilbert, M. I., calls attention to some of the methods adopted in foreign countries for revising the respective national pharmacopœias.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, pp. 213-214.

An editorial comments on the prospective cooperation of the Public Health and Marine-Hospital Service in the work of the revision committee, and points out that there is scarcely any limit to the work which may profitably be done in the direction above outlined, and it is doubtful if the entire public service of the United States has in progress a work of greater importance to the well-being of the people, though there may be some which will receive greater space in the daily newspapers, and consequently a greater amount of public applause.—Midland Druggist, 1908, v. 10, pp. 4-5.

Main, Thomas F., referring to the work of the Hygienic Laboratory in connection with pharmacopœial revision, says that it promises to be of great value to the committee of revision.—Proc. N. W. D. A., 1908, p. 197.

7. VALUE OF CRITICISMS.

An editorial, in commenting on the criticisms of the U. S. P. and N. F., points out that when these two official standards have reached the point where no further improvement is possible, pharmacy and

drug therapeutics will have attained their ultimate limits of development. Until that happy era is reached, honest criticism should not only be welcomed but invited.—*Midland Druggist*, 1908, v. 10, p. 53.

An editorial points out that, because of the increased interest in the *Pharmacopœia* of the United States, the committee of revision is already becoming embarrassed by the enormous number of suggestions relative to future editions, coming from all sources.—*Drug Topics*, New York, 1908, v. 23, pp. 273-274.

Remington, Joseph P., points out that for 80 years the *Pharmacopœia* has labored under the disadvantage of being revised from information which was mainly gathered from individual experiments and analysis, compilations from foreign *Pharmacopœias*, textbooks, etc. With the change of status of this book, however, manufacturing chemists, wholesale houses, and manufacturers of specialties have been led to appreciate the value of the book and are freely giving information from their books and records which they formerly considered as business secrets.—*Proc. N. W. D. A.*, 1908, p. 206.

Whelpley, Henry M., for the board of trustees of the United States Pharmacopœial Convention, reports that it was decided to publish a *Digest of Comments on the Pharmacopœia, Eighth Revision*. This will be similar to the *Digest of Criticisms of the Pharmacopœia, Seventh Revision*. It will, however, be a larger and more complete work. The chairman of the committee of revision was instructed to proceed with the preparation of the manuscript.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 170.

An editorial asserts that during the last revision pharmacists and physicians were given no opportunity to offer suggestions as the work of revision proceeded, and, as a consequence, errors which might have been avoided were allowed to creep in.—*Western Druggist*, Chicago, 1908, v. 30, p. 149.

Schieffelin, William Jay, asserts that the lamentable fact with regard to criticisms of the *Pharmacopœia* is that they come in with a rush just after the issue of the *Pharmacopœia*.—*Proc. N. W. D. A.*, 1908, p. 291.

For resolutions commending Surgeon General Wyman for his work in connection with improving the *Pharmacopœia* of the United States see *Am. Druggist*, N. Y., 1908, v. 53, p. 330; see also *J. Am. M. Ass.*, v. 5, p. 1796, and *Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 378.

An editorial comments on the interest that has been taken by both medical and pharmaceutical journals in the proposed publication of digests of comments on the U. S. P. by the Public Health and Marine-Hospital Service.—*Pharm. Era*, N. Y., 1908, v. 40, p. 628.

2. SCOPE.

1. NATURE AND CONTENT OF THE PHARMACOPŒIA.

Frey, Otto, believes that much of the material that is usually included in the prefatory pages of pharmacopœias might well be omitted and points out that the historical material contained in the prefatory pages of the Pharmacopœia of the United States belongs more properly to a history of pharmacy.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 605.

Sollmann, Torald, believes that the Pharmacopœia should breathe a healthy, but not excessive, conservatism as to new matter, and an equally rigorous criticism and reexamination of old matter, and that all substances whose value has not been scientifically demonstrated, regardless of their extensive use, should be excluded from official recognition.—*Tr. Am. M. Ass., Sec. Pharm. and Thearap.*, 1908, pp. 176-177.

Hallberg, C. S. N., thinks that the Pharmacopœia of the United States should contain every reasonable medicine that is being used extensively by the medical profession, and also believes that it is not the function of the committee to say whether or not certain popular pharmaceutical compounds, such as the compound sirup of sarsaparilla and camphorated tincture of opium are inert or have no therapeutic virtue.—*Ibid.*, p. 216.

"Xrayser," commenting on the report of the therapeutic committee of the British Medical Association, which he says was drawn up by 10 doctors, most of them of the modern school of therapeutics—that is, pharmacologists who have no use for medicines which can not be proved on frogs—thinks the ingratitude manifested in the column of desired rejections is colossal.—*Chem. & Drug. Lond.*, 1908, v. 73, p. 935. (See also editorial. *Ibid.*, p. 837.)

An editorial commenting on the same report asserts that there are many medical men whose familiarity with dispensing and with the Pharmacopœia is infinitely greater than contemporaries devoted to dispensing chemists' interests would have us to believe.—*Brit. M. J.*, Lond., 1908, v. 2, p. 1768.

Gadd, H. Wippell, in discussing the British Pharmaceutical Codex, points out that pharmacopœias can not, in practice, cover the whole field of medicinal remedies; they must and do omit many drugs which, while widely used, have not yet been sufficiently proved to receive the hall mark of official approbation.—*Pharm. J.*, Lond., 1908, v. 26, p. 289.

Davy, Henry, in discussing the British Pharmaceutical Codex, expresses regret that the members of the British Pharmaceutical

Society did not set themselves to work to set out a collection of the most efficacious and best preparations of the drugs that are recognized as being useful; they would thus have done far more good than they will do by the Codex as it stands.—*Ibid.*, p. 289.

Bourgoin, M., is quoted as asserting that it is not quite exact to state that the useful medicaments are those universally prescribed, and that it rarely happens that an efficacious and useful remedy does not become indispensable by its results.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 5.

An article by Grimbert on the medicaments issued from the Central Hospital Pharmacy, Paris, is reprinted.—*Am. Druggist*, N. Y., 1908, v. 52, pp. 65-66.

Schelenz, H., discusses the report of Grimbert on the use of drugs in Paris. He points out that old, well-established drugs have continued to be employed in approximately the same quantities for many years.—*Pharm. Zentralh.*, 1908, v. 49, p. 101.

Hatcher, R. A., believes that the Pharmacopœia must be made to contain everything which should be prescribed, and that unscientific preparations should not be given official recognition.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 214.

Remington, J. P., asserts that in the former revision of the Pharmacopœia of the United States, the committee on therapeutics was charged with the duty of reporting on the admission or exclusion of drugs.—*Ibid.*, pp. 212-213.

An editorial asserts that the question as to what should be in the Pharmacopœia has never been settled satisfactorily, and expresses the hope that, on the broad general principles involved, the medical profession will express itself more forcibly than ever before.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 325.

An alphabetical list of official and unofficial substances dispensed on prescriptions, compiled for the purpose of collecting statistics on one million prescriptions, is presented.—*Ibid.*, pp. 197-248.

Motter, M. G., thinks that imitations of such heterogeneous mixtures as are marketed by certain trade combinations should scarcely have place in the Pharmacopœia of 1910.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 217.

Beringer, George M., presents a number of suggestions for improvements in the Pharmacopœia of the United States.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 428-436.

Havenhill, L. D., discusses the desirability of more elaborate pharmacopœial standards.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 930-932.

Murray, Benj. L., presents some general observations on the Pharmacopœia of the United States, with specific criticisms and suggestions.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 193-200.

The A. Ph. A. committee on U. S. P. presents a comprehensive review of progress.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 526-531.

2. NOMENCLATURE.

Weigel, G., points out that the Latin nomenclature of the Ph. Helv. IV is identical with that of the Ph. Germ. IV with but few exceptions, which he enumerates.—Pharm. Zentrallh., 1908, v. 49, p. 201.

Andresen, Siegfried, points out that the apparently antiquated Latin nomenclature of former editions of the Ph. Dan. was retained in the seventh edition because of an agreement, entered into in 1865, between the three Scandinavian countries regarding nomenclature.—Apoth. Ztg., Berl., 1908, v. 23, p. 78.

Bergh, Gustaf Fr., discusses the pharmaceutical chemical nomenclature of the pharmacopœia.—Svensk. farm. Tidskr., 1908, v. 12, pp. 41-45, 61-65. (See also *Ibid.*, pp. 143-146.)

Danckwortt, P., points out that the designation of official drugs in the singular, as recommended by the Brussels Conference, has been followed by the Ph. Svec., Ph. Belg. and the Ph. Helv.—Apoth. Ztg., Berl., 1908, v. 23, p. 654.

The committee on N. F. recommends that the nomenclature and the titles of the N. F. should be in harmony with those of the U. S. P., that titles and synonyms not official should conform to modern ideas of chemistry, and that synonyms or English titles should agree with the Latin titles.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 491.

The A. Ph. A. committee on U. S. P. questions the advisability of giving the name of the family to which each plant belongs.—*Ibid.*, p. 526.

Beringer, George M., asserts that the zoological classifications of drugs of animal origin are generally omitted in the U. S. P.: uniformity of style and the same careful method of description should characterize the treatment of the drugs derived from the animal as well as from the vegetable kingdom.—Proc. New Jersey Pharm. Ass., 1908, p. 89.

Alpers, William C., believes that the official names of preparations included in the Pharmacopœia should be for fixed and unalterable preparations and that the usefulness of official names is seriously interfered with if they are permitted to be applied promiscuously to preparations of varying strengths.—Critic and Guide, N. Y., 1908, v. 11, pp. 43-45.

Kebler, L. F., asserts that one of the difficult features, in connection with chemical reagents, is the development of a satisfactory nomenclature. In the past it has been common to use in connection

with chemicals supposed to be of high quality the abbreviation "C. P.," but this abbreviation has come to be meaningless and should be discontinued.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 127. (Bull. Bur. Chem. U. S. Dept. Agric., 1909, No. 122.)

An editorial points out that the department of the United States Government which has in charge the enforcement of the food and drugs act sometimes sets a poor example for pharmacy students and prospective board of pharmacy candidates by using the old and what should be obsolete terms for official chemicals. As long as the U. S. P. is the legal standard it would appear that this particular department of the Government at least should use the official titles of such chemical substances as sodium benzoate.—Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 300.

Osborne, O. T., suggests that the next committee of revision of the Pharmacopœia put official abbreviations after long official names. He believes that the matter would thus be settled.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 145.

Pearson, W. A., discusses the pronunciation of pharmaceutical names and the need for introducing greater uniformity.—Pharm. Era, N. Y., 1908, v. 39, p. 555.

An editorial asserts that the dental literature, as it appears in the journals from month to month, evidences a lack of uniformity in the nomenclature of drugs and medicines employed by writers.—Dental Digest, 1908, v. 14, pp. 1464–1467.

Guilford, S. H., asserts that no art or science can be considered entirely satisfactory to its followers unless it possesses a nomenclature at least approximately exact and in harmony with philological requirements.—Dental Cosmos, 1908, v. 50, p. 1073.

The American Pharmaceutical Association adopted the following resolutions on pharmacopœial nomenclature:

Whereas the national food and drugs act makes the United States Pharmacopœia and the National Formulary the legal standards for drugs and medicines, the titles for the articles contained in these books and also the nomenclature employed are thus legalized and should, therefore, be consistently adhered to; and

Whereas the chemical nomenclature adopted by the A. A. A. S. has been accepted by several national associations, although it is not in harmony with the legalized official titles and appears in much of the literature emanating from these societies and their members and thus causes much confusion: Therefore be it

Resolved, That the American Pharmaceutical Association announces its continued adherence to the legalized titles and nomenclature, and directs that these only be used in all of its publications.

Resolved, That a committee on nomenclature, consisting of three members, be appointed to present this question to the American Chemical Society and to the American Medical Association, and that we solicit the cooperation of these associations in securing a uniformity of titles and nomenclature and a uni-

versal adherence to the legal official standards.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 531.

The same association also adopted the following resolutions bearing on trade names for official articles:

Resolved, That the American Pharmaceutical Association in convention assembled, at its fifty-sixth annual meeting, requests the manufacturers and jobbers of drugs and medicines, the publishers of price lists and the boards of pharmacy to adopt the pharmacopœial nomenclature for all official drugs and chemicals.

Resolved, That we urge them to discourage the use of such meaningless or incorrect titles as oil of vitriol, muriatic acid, iodide of potash, carbolic acid, coal-tar creosote, green opium, etc.—*Ibid.* p. 536.

An editorial asserts that, if the physicians of Sweden will use the official names for some of the new remedies included in the *Ph. Svec. IX*, they are vastly different from the doctors of the United States.—*Am. Druggist*, N. Y., 1908, v. 53, p. 341.

Hallberg, C. S. N., thinks that dimethyl-phenyl-iso-pyrazolon and hexamethylenamine are names as easily to be remembered as trypanosomiasis and spirillosis.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 145.

Wilbert, M. I., calls attention to some of the short and euphonious names that have been introduced into the *B. P. C.*—*Am. J. Pharm., Phila.*, 1908, v. 80, pp. 136-137.

Self, P. A. W., in discussing the British Pharmaceutical Codex, expresses the belief that the new names coined for polynomial preparations are usually excellent, though he prefers names having a definite chemical significance.—*Pharm. J., Lond.*, 1908, v. 26, p. 252. (See also pp. 314, 416.)

Schieffelin, Wm. Jay, calls attention to the risk which those run who sell, even under their chemical names, products upon which the patent has not yet expired. The sale under the chemical name of a product upon which the patent has expired is permitted, but the right to the general use of the trade-mark names Sulfonal, Trional, Aristol, and Phenacetin is denied by the owners of these rights.—*Proc. N. W. D. A.*, 1908, p. 227.

3. COST AND SIZE.

The general medical council has been able to establish its proprietorship in the British Pharmacopœia, and the publishers of the British Pharmaceutical Codex, as a result of the representations made, have withdrawn their book from the market. The general medical council has decided that in view of the legal sanction which the Pharmacopœia possesses, not only in the United Kingdom, but in other parts of the Empire, it is important that its official authority should be safeguarded and that the statutory property in its text,

which legislation has vested in the council, should not be impaired by the publication and sale of unauthorized transcripts.—*Pharm. J., Lond.*, 1908, v. 26, p. 765.

An editorial comments on the report that over 35 per cent of the drug stores in North Dakota did not have a copy of the U. S. P. VIII, and expresses the hope that the investigator directed his attention chiefly to stores of the more doubtful order and that other States would not make as poor a showing in this respect as North Dakota.—*Pacific Pharmacist*, 1908-9, v. 2, p. 101.

Remington, Joseph P., asserts that 50,000 copies of the eighth revision of the United States Pharmacopœia have been sold. This to his mind indicates that practically every druggist in the country has one in his possession.—*Apothecary, Boston*, 1908, v. 5, p. 279.

4. PUBLICITY.

An editorial asserts that the next U. S. P. committee of revision ought to take the pharmaceutical and medical public into its confidence and give regular and systematic publicity to its work.—*Bull. Pharm., Detroit*, 1908, v. 22, p. 442.

Main, Thomas F., voices the opinion that, in compiling the next Pharmacopœia, an endeavor should be made to secure expert advice and assistance from all branches of the trade, which, when combined with the therapeutic knowledge of the representatives of the medical profession, should give us the best pharmacopœia the world has ever seen.—*Proc. N. W. D. A.*, 1908, p. 199.

An editorial asserts that, in order that the next editions of the U. S. P. and of the N. F. may be as nearly free from error as possible, discussion of the formulas and processes must be given the widest publicity.—*Western Druggist, Chicago*, 1908, v. 30, p. 149.

McKesson, Donald, commenting on J. P. Remington's statement that criticisms of the Pharmacopœia should have come in before the revision of the Pharmacopœia came out, says: We are not mind readers, and can not tell what the committee is going to do. He further suggests that if the revision committee could get out an advance draft of proposed changes, the manufacturers could tell something about it.—*Proc. N. W. D. A.*, 1908, p. 291.

An editorial asserts that the suggestion made by Donald McKesson that the committee of revision issue a preliminary draft for criticism prior to the publication of the volume officially has many valuable features and appears to be highly desirable.—*Am. Druggist, N. Y.*, 1908, v. 53, p. 166. (See also *Drug Topics, New York*, 1908, v. 23, p. 273.)

Remington, J. P., thinks that it would be impracticable to submit every proposition affecting the Pharmacopœia to the medical society

of each county or each State and believes that if this is done the next Pharmacopœia might be issued in 1916.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 212.

An editorial points out that, in the past, pharmacopœial revision committees have conducted their business with what seemed to many as secrecy. The members of the committees have been obligated to guard carefully their correspondence and especially to avoid giving publicity to discussions among the members of the committee of revision. It will not be possible to conduct the work of revision along the same lines in the future.—Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 369.

The Pharmacopœia committee's report to the general medical council states that the committee has resolved to publish the report * * * and proposes to take into consideration the recommendations and the published comments to which they may give rise when the form and contents of the next Pharmacopœia are under discussion.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Bourquelot, Em., in discussing the revision of the French Codex, points out that the primary object of the revision commission was to consult schools and societies relative to the desirable changes in the forthcoming Codex.—J. de pharm. et de chim., Par., 1908, v. 28, p. 265.

5. TIME OF PUBLICATION.

Burge, J. O., does not like the change in the title of the Pharmacopœia from U. S. P. 1900 to U. S. P. VIII. Despite the fact that the book was published a little nearer 1910 than 1900, the time-honored rule of calling the book after the year in which the committee for the decade was organized should have been adhered to.—Bull. Pharm., Detroit, 1908, v. 22, p. 340.

Schieffelin, William Jay, says the length of time it takes to bring out the Pharmacopœia after the date of its revision is almost a scandal, and the preliminary work should be commenced before, and should not be begun at the date of the revision.—Proc. N. W. D. A., 1908, p. 288.

Puckner, W. A., thinks that the standards established by the council on pharmacy and chemistry for new drugs will make it possible that the next revision of the Pharmacopœia will be much simpler and that it will take much less time to get it out.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 215.

Hallberg, C. S. N., points out that an unfortunate delay in the getting out of the last Pharmacopœia occurred chiefly because we had to enter on a new line—the introduction of the serums.—*Ibid.*, p. 216.

Remington, J. P., points out the reasons for delay in the work of revision and asserts that it took fully six months of the most careful

painstaking effort to arrange and assign work to the members of the fifteen subcommittees.—*Ibid.*, p. 212.

Plaut, Albert, thinks the next issue of the Pharmacopœia will not be delayed as long as it has been heretofore.—Proc. N. W. D. A., 1908, p. 290.

Hemm, Francis, protests against the frequent and radical changes made in pharmacopœial requirements, which, he thinks, militate against the success and popularity of the Pharmacopœia, both with the dispensing pharmacist and the prescriptionist.—Proc. Missouri Pharm. Ass., 1908, p. 83.

Remington, Joseph P., states that the adoption of the Pharmacopœia by the Government as a standard will necessitate more frequent revision, and expresses the belief that five years would be sufficient to have preparations and tests thoroughly known and established.—Proc. N. W. D. A., 1908, p. 205. (See also Pharm. J., Lond., 1908, v. 27, pp. 461-462.)

Carter, F. L., reports the following recommendation, which, after discussion, was adopted:

The board of control recommends that this association go on record as being in favor of revisions of the Pharmacopœia at intervals of five years instead of ten.—Proc. N. W. D. A., 1908, p. 284.

Sollmann, Torald, discusses the interval that should elapse between successive revisions of the Pharmacopœia and points out that the Pharmacopœia is generally from one to ten years behind the time. He suggests the publication of annual supplements so as to keep the Pharmacopœia fully abreast of the times.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, pp. 171-173.

6. DOSES.

An abstract calls attention to an article by Jacobi, in which he points out that minimum and maximum doses are forced upon us in textbooks and pharmacopœias with refreshing coolness, and that much of this information is misleading and not infrequently dangerous.—Therap. Gaz., Detroit, 1908, v. 32, pp. 350-351. (See also Drug. Circ., N. Y., 1908, v. 52, p. 311.)

An editorial asserts that dosage is the bane of medicine and that the question is not one of size of dose but of effectiveness. Many of the doses given in textbooks are simply copied from one edition to the next without critical analysis. The proper dose is "enough" and only on this basis can we be of benefit to our patients.—Critic and Guide, N. Y., 1908, v. 11, pp. 8-9.

An editorial asserts that widely different and even opposite effects can sometimes be secured from the same remedy, by the use of dif-

ferent doses and systems of dosage.—*J. Therap. and Dietet.*, Boston, 1908-9, v. 3, pp. 65-67. (See also p. 154.)

Hommell, P. E., favors a minimum and maximum dose list.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 106.

The *Ph. Serb.* II includes a table of maximum single and daily doses.

The *Ph. Svec.* IX includes a table of maximum doses for man, also a table of maximum doses for the several domestic animals including horses, cattle, sheep, swine, and dogs.

Pfaehler, H., presents a comparative table showing the maximum doses of the *Ph. Helv.* IV and the corresponding doses of the *Ph. Helv.* III.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 6-10.

"C. C." [C. Crinon?] thinks the introduction into the *Ph. Fr.* V of maximum doses will be well received; he discusses the opposition to this measure and the reasons therefor.—*Répert. d. pharm. Par.* 1908, v. 20, p. 490.

A correspondent points out that the table of maximum doses included in the *Ph. Fr.* V was strongly opposed by the medical members of the revision committee. It was, in fact, outvoted and abandoned, but later, in deference to a request made by the General Association of French Pharmacists, was included as information, and not to be used as an argument before the courts.—*Am. Druggist*, N. Y., 1908, v. 53, p. 172.

Andresen, Siegfried, points out that the *Ph. Dan.* VII specifies that the maximum doses given in that book are only for adults.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 79.

7. ANTIDOTES.

The *Ph. Serb.* II includes a list of antidotes with general directions for their application.

Dorlencourt, H. (*Chem. Zentr.*, 1908, I, 1568; from *Bull. Sci. Pharm.*, 1908, 15, 82-88), discusses the supposed antidotes to alkaloids and artificial antitoxins. It was found that a lethal dose of strychnine injected intramuscularly together with the substance produced by the action of calcium permanganate on the alkaloid, produced no toxic action.—*Abstr. J. Chem. Soc.*, Lond., 1908, v. 94, Part II, p. 721.

An unsigned article presents a review of the literature relating to poisons and poison action.—*Jahresb. ü. Tier-Chem.*, for 1908, Wiesb., 1909, v. 38, pp. 1092-1142.

8. WEIGHTS AND MEASURES.

Roberts, Herbert, thinks that if we are to have "spoonsful" ordered along with the metric system it would be preferable to have some calculable ratio, say of 5 c. c. for tea, 10 c. c. for dessert, and 20 c. c. for tablespoonful.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 171.

The report of the committee on N. F. points out that owing to changes in policy on the subject of weights and measures in successive editions of the National Formulary, much confusion in weights and measures has occurred, and recommends that the metric system only be used in the National Formulary.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 489.

The committee on weights and measures of the A. Ph. A. points out that the opposition to the metric system is largely due to the lack of application of that system.—*Ibid.*, p. 538.

An editorial points out that there is a simple and accurate method of dealing with formulas in the metric system and that is to use metric weights and measures only, and thus avoid the necessity of transposing from one system of weights and measures to the other.—*Canad. Pharm. J.*, Toronto, 1908, v. 42, p. 392.

"Krino" asserts that the metric system enthusiasts appear to ignore the fact that the meter has actually come, and come to stay, even in poor, benighted, and scientifically backward Britain.—*Pharm. J.*, Lond., 1908, v. 27, p. 333.

A book review of the British Pharmaceutical Codex calls attention to the fact that this book has accepted the word "mil," a contraction for milliliter, as the term to represent the one-thousandth part of a liter, in place of the more cumbersome and less practical cc.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 187.

Wild points out that there has been some criticism of the use of the word mil in the British Pharmaceutical Codex, asserting that it might get confused with milligram.—*Pharm. J.*, Lond., 1908, v. 26, p. 384.

Pinchbeck, G., commends the use of the term mil in the B. P. C. for the thousandth part of a liter and believes that it is more representative and more useful than cubic centimeter. He expresses the hope that medical men when prescribing and making use of the metric system will use this expression and its subdivisions deci-, centi-, and milli.—*Ibid.*, p. 670.

An unsigned article presents metric equivalents for apothecaries' weight and liquid measures.—*Drug Topics*, New York, 1908, v. 23, p. 297.

Heebner, Chas. F., points out that American critics of English and Canadian publications are apt to overlook the relations existing between the imperial and metric systems of measures and between the

imperial and wine systems.—*Canad. Pharm. J.*, Toronto, 1908, v. 42, p. 339.

Seidell, A., suggests that a statement be placed in the "Introductory notices" to the effect that the term "parts" as used in the U. S. P. refers in all cases to parts by weight.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 528.

v. Spindler, O., discusses the volumetric apparatus designated by the *Ph. Helv.* IV, and points out that the pharmacopœia commission has used the true liter as the basis for measures of capacity.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 77–80.

9. OBJECT AND USES.

"Xrayser" in connection with the new French Codex asserts that in Great Britain, at least, a new pharmacopœia is not much more than a register of progress. No one need prescribe or take its medicines, or limit himself to them. Perhaps the principal benefit of a new edition is the stimulus it gives to pharmaceutical criticism and investigation. To afford scientific pharmacists only one, or at most two, such opportunities during their active careers would be unkind to them and perhaps a loss to the art of pharmacy itself.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 447.

An American correspondent notes that, in spite of the fact that the U. S. P. and the N. F. are now legal standards, of which it might be considered imperative that every pharmacist should supply himself with the latest editions, inspectors have found that 20 to 30 per cent of the druggists have not done so.—*Ibid.*, p. 745.

Sollmann, Torald, discusses the scope of the Pharmacopœia and points out that the retail pharmacist, the manufacturer, the unprogressive and the progressive physician, and the pharmacologist—each would make a very different pharmacopœia. The East and the West and the South would introduce further differences. No one pharmacopœia which human ingenuity could devise would seem ideal to all of these factions.—*Tr. Am. M. Ass.*, Sec. Pharm. and Therap., 1908, p. 176.

An editorial commenting on the report of the therapeutic committee of the British Medical Association points out that articles like figs, prunes, and brandy are recommended for omission because they are not usually prescribed as such and require no official descriptions, being commercial products that vary in quality and price.—*Brit. M. J.*, Lond., 1908, v. 2, p. 1768.

10. ADDITIONS AND DELETIONS.

Hommell, P. E., suggests that such drugs as wahoo, stavesacre, pipsissewa, geranium, koussou, sassafras pith, chirata, cypripedium, and calendula should be dismissed from the U. S. P. as they are seldom

called for nowadays. He believes that *Chenopodium*, *caulophyllum*, *pulsatilla*, *bryonia*, and *rumex*, dismissed from the U. S. P., should have been retained because they possess valuable medical properties. He would also add the root of *Echinacea angustifolia* and a fluid extract thereof.—Proc. New Jersey Pharm. Ass., 1908, p. 99.

Beringer, George M., believes that a rule should be established that a drug that is not administered, either in its natural state or pulverized or in the form of an infusion or decoction, should not be admitted into the Pharmacopœia without a formula for the preparations in which it is commonly exhibited.—Am. J. Pharm., Phila., 1908, v. 80, p. 431. (See also Proc. New Jersey Pharm. Ass., 1908, p. 89.)

Fussell, M. Howard, believes that there are still many errors in the Pharmacopœia and points out the desirability of deleting from its pages many of the present formulas for complex preparations. He asserts that of the 68 formulas for preparations of this kind there are comparatively few that are worth continuing.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 18.

Hallberg, C. S. N., announces that the trustees of the Pharmacopœia have arranged for the collection of statistics on 1,000,000 prescriptions by the time the next committee is formed two years from now. Then for the first time the committee on revision will really know just what is being used in this country.—*Ibid.*, p. 216.

Miller, Emerson R., presents an analysis of 19,000 prescriptions containing 915 articles, with a tabulated statement of the number of times each substance was prescribed.—Proc. Alabama Pharm. Ass., 1908, pp. 61-71.

II. PURITY AND STRENGTH.

Remington, J. P., points out that the difference between the present U. S. P. and its predecessors mainly lies in the greater precision, definiteness, and accuracy of the former, particularly in regard to the standards.—Bull. Pharm., Detroit, 1908, v. 22, p. 238.

Coblentz, Virgil, discusses the "Purity rubric" of the U. S. P. and points out that the different tests of the text are intended to detect such deleterious impurities as usually occur in the chemicals in question, harmless by-products being ignored and tacitly permitted to be present to the extent allowed by the rubric.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 759-765.

Danckwortt, P., calls attention to the U. S. P. purity rubric requirements and comments on the rather naïve statement that in some cases it will doubtless be found that the manufacturer can exceed the limit of purity, and, if this be the case, no objection can be made, the language used being usually "not less than — per cent of pure salt."—Apoth. Ztg., Berl., 1908, v. 23, p. 654.

Hill, Charles Alexander, in a discussion on the purity of pharmaceutical chemicals, asserts that the tests of the U. S. P. are unsatisfactory and unscientific, and, being in the nature of cookery recipes, have a tendency to come into the hands of and be abused by unskilled persons. Moreover, being quite inflexible in the light of advances in analytical chemistry, they are unsuitable for incorporation in a work which remains official for a considerable number of years.—*Chem. & Drug.*, Lond., 1908, v. 72, pp. 792-797.

Murray, Benj. L., points out that the U. S. P. VIII abounds in "Purity rubrics" and that, while the general principle is no doubt satisfactory, there are many cases where no corresponding method of analysis is to be found in the text. He points out that, as there are no suitable methods of testing, the addition of the "Purity rubric" is unsatisfactory and unfair.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 197-198.

Kahn, Joseph, believes that it is of the utmost importance that drugs forming the component parts of physicians' prescriptions should be of the highest possible purity. Drugs used for the treatment of disease and the prolongation of human life must be pure, absolutely and invariably.—*Proc. New York Pharm. Ass.*, 1908, p. 226.

Stewart, F. E., asserts that pharmacists should apply the tests of the Pharmacopœia to the materials dispensed by them, so as to be in a position to guarantee the genuineness and purity of the material to physicians.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 45.

Pinchbeck, G., commenting on inaccurate standards included in the B. P. C., points out that, to guard against a repetition of such errors, analysts and manufacturers should be consulted and a general consensus of opinion arrived at as to the highest practicable standards for medicinal substances capable of being produced on a reasonable commercial scale and at a reasonable cost.—*Pharm. J.*, Lond., 1908, v. 26, p. 670.

An editorial declares that general extension of the principle of limitation of impurity in chemicals seems inevitable, and the chief factor of uncertainty now is, what will the limits be and who will provide them.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 790.

An editorial, in discussing the proposed publication of digests of comments on the U. S. P., points out that if the Division of Pharmacology could be developed into a sort of clearing house for information relating to pharmacopœial standards and requirements and the facilities of the laboratory be utilized in trying out disputed questions as to formulas and standards, the greatest benefit would accrue to the pharmacists of this country.—*Am. Druggist*, N. Y., 1908, v. 53, p. 123.

12. ATOMIC WEIGHTS.

The report of the international committee on atomic weights, with the atomic weight table, for 1908, is reprinted.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1-4. (See also *Chem. News* and other chemical journals.)

Clarke, F. W., presents the fifteenth annual report of the committee on atomic weights, with a review of the determinations published during 1907.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 309-318.

de Launey, N., comments on the symmetry in the law of atomic weights and presents a diagram on which he has plotted the several elements in accordance with ordinates outlined.—*Chem. News, Lond.*, 1908, v. 97, p. 99.

Lodge, Oliver, discusses the structure of the atom and its relation to chemical affinity and the electrical theory of matter.—*J. Soc. Chem. Ind., Lond.*, 1908, v. 27, pp. 731-738.

Poschl, Viktor, presents some suggestions on a new periodic function of the atomic weight, based on the relative abundance of the chemical elements.—*Ztschr. f. physikal. Chem.*, 1908, v. 64, pp. 707-708.

Dubreuil, Louis, presents a note on the calculation of atomic weights, especially with reference to the elimination of errors.—*Compt. rend. Acad. d. sc. Par.*, 1908, v. 147, pp. 629-632.

Noyes, William A., discusses the choice of the most probable value for an atomic weight, and points out that the atomic weight of hydrogen calculated from the available results is 1.00775.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 4-8.

Danckwortt, P., points out that, with the exception of the U. S. P. VIII and the Ph. Brit. IV, all of the newer pharmacopœias have adopted O=16 as the basis for the atomic weights.—*Apoth. Ztg., Berl.*, 1908, v. 23, p. 655.

Self, P. A. W., in discussing the B. P. C., asserts that the substitution therein of the international atomic weights for those based on H=1.000 is a step in the right direction.—*Pharm. J., Lond.*, 1908, v. 26, p. 252.

Seidell, A., suggests that the pharmacopœia adopt O=16 as the basis for atomic weights.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 528.

13. CHEMICAL FORMULAS.

Danckwortt, P., points out that the Ph. Germ., Ph. Svec., Ph. Austr., Ph. Belg., and the Ph. Helv. do not include chemical formulas.—*Apoth. Ztg., Berl.*, 1908, v. 23, p. 654.

Self, P. A. W., thinks that the insertion of molecular weights, with the headings of chemical monographs, is an idea which might well be copied in the next Ph. Brit., but it is a matter of doubt

whether "structural" formulas would not have been preferable to "empirical."—*Pharm. J., Lond., 1908, v. 26, 252.*

Pinchbeck, G., asserts that the constitutional formulas given in the B. P. C. are far from clear and makes a number of suggestions which he believes would serve to make structural differences more readily understood.—*Ibid., p. 669.*

Sawyer, James, discusses the ancient apothecaries' symbols. A number of these symbols are reprinted.—*Chem. & Drug., Lond., 1908, v. 72, p. 340.*

3. NONPHARMACOPŒIAL STANDARDS.

1. NATIONAL FORMULARY.

The report of the committee on National Formulary is reprinted with the following synopsis of the recommendations of the N. F. committee adopted by the A. Ph. A.:

1. The committee to be appointed by the council for a full period of revision.
2. The committee to consist of 15 members.
3. That the cooperation of the medical profession and the medical departments of the National Government be secured.
4. That the present scope of the Formulary, as indicated in the preface, be continued.
5. That conservative action and liberal interpretation be given to the consideration of suitable articles for the Formulary.
6. That the metric system only be used.
7. That strength of preparations be stated as so many grams in 100 cubic centimeters.
8. That all formulas be uniform in style.
9. That a statement be inserted in the preface to the effect that the National Formulary does not assume any responsibility for the therapeutic value of any preparation, and that the question of additions or eliminations be decided mainly on the basis of commercial demands.
10. That suitable definitions for unofficial ingredients may be inserted.
11. That the term "Appendix" be eliminated and the book designated as parts 1 and 2.
12. That the chairman's résumé of the propaganda be referred to the section on commercial interests.
13. That the expenses of the committee be reasonably provided for.
14. The book to be simply "The National Formulary."
15. The nomenclature, titles, and synonyms should be in conformity with the U. S. P. or with modern ideas, should be descriptive of

composition, and that therapeutic or anatomical titles should be discouraged.

16. Insert record of publication on the title-page.

17. Trade-mark names shall not be introduced.

18. The Bulletin should serve as the official organ of the N. F. committee.

19. Authority should be given to the committee to establish a specific date on which the next edition of the National Formulary should go into effect.

20. The chairman's report of the effect of age on N. F. preparations exhibited at Detroit 20 years ago, should be published in the Proceedings.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 487-494.

The N. A. R. D. committee of U. S. P. and N. F. propaganda commends the intention of the American Pharmaceutical Association to proceed immediately with the revision of the National Formulary and congratulates the pharmacists of the country on the prospect of having placed at their disposal, in the near future, a new and enlarged edition of this important work.—Am. Druggist, N. Y., 1908, v. 53, p. 190.

Diehl, C. Lewis, discussed the evolution of the National Formulary at the meeting of the Chicago branch of the American Pharmaceutical Association.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 380.

Alpers, William C., outlines the history and discusses the evolution and the object of the National Formulary.—Pharm. Era., N. Y., 1908, v. 39, p. 773.

An editorial discusses the field of usefulness of the National Formulary and points out some of the features of the more recent editions of the book which do not meet with the approval of the editor.—Critic and Guide, N. Y., 1908, v. 11, pp. 201-203.

Wilbert, M. I., in commenting on the shortcomings of the National Formulary points out that the fault is not that the American Pharmaceutical Association is unwilling to make improvements, or that the committee on the National Formulary is not competent, but the fault lies with American pharmacists who appear to be unwilling to take an active part in contributing toward its revision.—Am. J. Pharm., Phila., 1908, v. 80, p. 197.

Diehl, C. Lewis, presents a condensed review of the criticisms and suggestions concerning the betterment of the N. F. III which have appeared up to January 1, 1908.—Bull. Am. Pharm. Ass., 1908, v. 3, pp. 74-79, 111-115, 143-148, 240-243.

At a pharmaceutical meeting of the Philadelphia College of Pharmacy, Geo. M. Beringer offered the following resolution, which was adopted:

Resolved, That we request that the committee on National Formulary, of the American Pharmaceutical Association, proceed imme-

diately to revise that work, so as to make it a proper legal standard; and, further, that the members of the Philadelphia College of Pharmacy and the pharmacists attending this meeting pledge their assistance to the committee toward improving the work and making the formulas satisfactory.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 198.

Fairchild, B. T., suggests that the National Formulary should be stricken out of the State drug law wherever it occurs and asserts that the National Formulary bodily appropriated names which had long been used, but had not always adopted the method of preparation which had been used in connection with these names.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 54.

Plaut, Albert, asserts that the fundamental mistake in the pure food and drugs act, as far as drugs are concerned, was in making the National Formulary an official part of the law.—*Proc. N. W. D. A.*, 1908, p. 287.

Sollmann, Torald, points out that until quite recently the National Formulary was a modest, unobtrusive, harmless and really useful little book, compiled by the American Pharmaceutical Association primarily for the benefit of pharmacists, purposing to give working formulas for such preparations as the pharmacopœial revision committee did not care to father—elixirs, cough sirups, shotgun prescriptions, etc.—A book in which the tottering great-grandmothers of the materia medica were resurrected from their well-earned sleep in the therapeutic graveyard to join in a merry dance with the lusty and vociferous youngsters of the modern therapeutic yellow press; with here and there a healthy debutant waiting bashfully for the favorable notice of the revision committee.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, pp. 182–184.

Lyon, William, points out that the main object of a book like the B. P. C. is to secure uniformity in pharmaceutical formulas, and to provide a means of combating the pernicious habit of prescribing proprietary preparations.—*Pharm. J., Lond.*, 1908, v. 26, p. 317.

Weil, Jacob, recommends that the N. F. and the U. S. P. be embodied in one book. He finds in the N. F. complicated and ridiculous formulas and believes that the U. S. P. revision committee should take the matter up and see if the two books can not be combined.—*Proc. N. W. D. A.*, 1908, p. 287.

Gadd, H. Wippell, points out that it can hardly be expected that a pharmacopœia should take cognizance of the multitudinous preparations and endless combinations which are needed by a generation which has, to some extent, neglected the art of extemporaneous prescribing, and asserts that formularies and compilations of unofficial standards for preparations serve to strike a blow at quackery both of the blatant and pseudoscientific types.—*Pharm. J., Lond.*, 1908, v. 26, p. 289.

Diehl, C. Lewis, points out that the necessity for establishing a standard for articles directed in the N. F. formulas, for which no authoritative standard exists and which are subject to variations in kind and quantity supplied, has manifested itself in a number of formulas and requires the careful attention of the committee.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 77.

Forester, H., in discussing hospital pharmacopœias and the B. P. C., points out the need for uniformity in formulas for widely used preparations.—Pharm. J., Lond., 1908, v. 27, pp. 128-130.

Warnecke, G., discusses a number of formulas, for specialties, that have been proposed by the "Deutscher Apotheker Verein."—Apoth. Ztg., Berl., 1908, v. 23, p. 382.

Hargreaves, John, reviews the Canadian Formulary and presents a brief outline of some of the objects and expectations of this book.—Canad. Druggist, Toronto, 1908, v. 20, p. 201. (See also Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 282.)

Morrison, J. E., comments on the criticisms made by La Wall, of the Canadian Formulary, and points out that the critic has overlooked the fact that the formulas are necessarily based on the standards of the British Pharmacopœia.—Canad. Pharm. J., Toronto, 1908, v. 42, p. 398. (See also comments by Hubner and by Hargreaves, *Ibid.*, pp. 339-341.)

"Gnomon," in commenting on the general idea of developing local formularies adapted to the conditions existing in any particular portion of the country, commends the general idea, but expresses the hope that compilers of such local formularies will confine themselves as much as possible to indorsing formulas adopted for publication in recognized authoritative works.—Pharm. J., Lond., 1908, v. 25, p. 318.

Diehl, C. Lewis, in a report on the effect of age on the preparations made according to the National Formulary, concludes that the faults in the formulas of the first edition of the National Formulary (1886) are not glaring. Some of these faults have been corrected in the revised editions of 1896 and 1906 and a new revision, now contemplated, will doubtless correct others.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 506.

Dunning, H. A. B., thinks that pharmacists should make National Formulary preparations themselves and observe evident defects in the formulas for the purpose of communicating them to the National Formulary committee.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 15.

An editorial asserts that pharmacists should know their National Formulary better than they do and points out several instances where physicians have failed to secure N. F. preparations when prescribed.—Apothecary, Boston, 1908, v. 5, p. 119.

Fussell, M. Howard, calls attention to some of the undesirable features of the National Formulary, particularly the fixed formulas

for complex preparations.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 11.

Blair, Henry C., in commenting on official formulas, expresses the belief that so far as possible elementary substances should be used. He quotes as an example the N. F. formula for aromatic wine of coca, which requires in all 14 finished preparations for its production.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1024.

Mittelbach, Wm., deprecates the increase of fixed formulas in the Pharmacopœia and National Formulary and asserts that the manufacture of preparations from fixed formulas is bound to go into the hands of the skilled manufacturing firms.—*Ibid.*, pp. 1041–1042.

Lowe, Clement B., thinks that much of the criticism that has been launched at the National Formulary has been of a captious kind, destructive and not constructive.—Proc. Pennsylvania Pharm. Ass., 1908, p. 52.

Kebler, L. F., in discussing the class of so-called remedies which owe their virtue mainly to their alcoholic content, points out that manufacturers use as one of the arguments to justify the existence of products of this character the fact that the National Formulary, a standard quoted by the food and drugs act, recognizes preparations of similar type. The preparation referred to most frequently is "Beef, Wine, and Iron." He reports that the point raised is exceedingly important and requires adjustment.—Proc. Ass. Off. Agric. Chem., 1908. 25th Ann. Conv., pp. 95–96. (Bull. Bur. Chem. U. S. Dept. Agric., 1909, No. 122.)

2. NEW AND NONOFFICIAL REMEDIES.

The council on pharmacy and chemistry presents revised rules governing the acceptance of articles for "New and Nonofficial Remedies."—J. Am. M. Ass., 1908, v. 51, p. 1078.

A book review of N. N. R. points out that no pharmacist can be expected to read current literature and remember all the new remedies as they come out; therefore a volume like New and Nonofficial Remedies is a necessity as well as a convenience.—Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 282.

An editorial comments on the work of the council on pharmacy and chemistry of the American Medical Association and asserts that as at present constituted this council has neither the knowledge nor the equipment for the work in hand.—Critic and Guide, N. Y., 1908, v. 11, pp. 203–205.

Fussell, M. Howard, criticizes some of the articles that have been included in N. N. R. and points out that the council on pharmacy and chemistry through its publications should teach physicians what not

to use, as well as what articles are useful.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 19.

Sollmann, Torald, discusses "The broader aims of the council on pharmacy and chemistry" in this and the succeeding numbers of the *Journal*. While some of the newer remedies are mentioned, the series of articles deals mainly with the council and the general methods of manufacturers.—J. Am. M. Ass., 1908, v. 50, p. 1054.

Stewart, F. E., thinks it would be an excellent thing if manufacturers would pass over their products to the council before they do any advertising at all; then their claims would be founded on facts rather than fancy.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 96.

Faught, Francis A., calls attention to the reports of the council on pharmacy and chemistry on numerous preparations, showing the discrepancy between the published formulas and the true composition.—J. Am. M. Ass., 1908, v. 50, p. 95.

Solis-Cohen, Solomon, discusses the prescribing of proprietary mixtures and mentions the fact that they are ready-made as one of the chief objections to their use.—*Ibid.*, v. 51, pp. 989-991.

Musser, J. H., discusses the evil influence upon the science of medicine of mystery in therapeutic agents.—Am. J. Pharm., Phila., 1908, v. 80, pp. 26-28.

NEW REMEDIES.

Lloyd, John Uri, calls attention to the possible dangers arising from the indiscriminate use of new remedies, and commends the position that has been taken by eclectic physicians in maintaining their position as therapeutic expounders of the axiom "Hold fast that which is good."—Eclectic. M. J., Cincin., 1908, v. 68, pp. 357-359.

Quant, Ernest, in commenting on the British Pharmaceutical Codex, points out some of the pitfalls to which chemists in some degree and medical men in particular are exposed in connection with the unnecessary duplication of names for medicaments of similar or identical composition.—Pharm. J., Lond., 1908, v. 27, pp. 513-514, 544-545.

Dunhill, T. P., in discussing the abuses that have grown out of the widespread use of proprietary medicines, asserts that many of these remedies have been placed upon the market without having been subjected to careful pharmacologic testing and are being used by physicians who give credence to the claims made in the advertising literature.—*Ibid.*, v. 26, p. 148.

Flury, Ferdinand, in discussing the innovations and the progress made in pharmaceutical chemistry during the year 1907, points out that the number of new remedies offered is materially smaller than in the preceding year and asserts that much of this retrogression had

its cause in the higher requirements that are being made regarding new remedies and the destructive criticism offered in some quarters.—*Ztschr. f. ang. Chem.*, 1908, v. 21, pp. 821–832, 867–880.

An editorial commenting upon the new remedies introduced during 1907 asserts that one of the causes for the marked reduction in the number of new remedies introduced during the past year has been the activity of the council on pharmacy and chemistry, which has certainly acted as a deterrent to the introduction and duplication of mere mixtures. A number of new remedies introduced during the year 1907 are described.—*Critic and Guide*, N. Y., 1908, v. 11, pp. 26–27.

Eichengrün, A., discusses the desirability of establishing an official control laboratory for pharmaceutical and chemical preparations and points out the need for ridding materia medica trade of illicit and unfair competition on the part of unscrupulous and deceiving manufacturers.—*Ztschr. f. ang. Chem.*, Berl., 1908, v. 21, pp. 1974–1978. (See also articles by Thoms. *Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1022, and *Therap. Monatsh.*, Berl., 1908, v. 22, pp. 648–655.)

Smith, John, discusses nonsecrecy in medicines and the need for legislation to restrict the exploitation of the ailing and the comparatively poor in the interests of capitalists and shareholders in medicine manufacturing concerns.—*Pharm. J.*, Lond., 1908, v. 26, pp. 262–263.

Lüders, Richard, presents a review of the advances made and the new remedies introduced through the pharmaceutical chemical industries in 1907.—*Chem. Ind.*, Berl., 1908, v. 31, pp. 263, 277, 342, 367.

Mossler, Gustav, discusses the origin and composition of some of the newer remedies, their pharmacodynamic action, their production, and some of the tests for identity and purity.—*Ztschr. d. allg. österr. Apoth.-Ver. Wein*, 1908, v. 46, p. 89 ff.

Rabow, S., discusses the new remedies introduced during 1907.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 309–311, 330–331, 346, 366–368. See also *Therap. Monatsh.*, Berl., 1908, v. 22, pp. 145–147, 203–205.

Mentzel, H., reviews and describes some of the new remedies, specialties, and formulas.—*Pharm. Zentralh.*, 1908, v. 49, pp. 124 ff.

Coblentz, Virgil, presents a description of some of the newer remedies.—*Apothecary*, Boston, 1908, v. 20, pp. 34, 86, 279.

Titles and abstract descriptions of new remedies are given in the *Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 141–170.

Zernik, F., presents a review of the more important new remedies introduced during the year 1907.—*Ber. d. pharm. gesellsch.*, Berl., 1908, v. 18, pp. 4–41. (See also *Arb. a. d. pharm. Inst. d. Univ.*, Berl., 1908, v. 6, pp. 4–132.)

Gössling, W., discusses the evolution of synthetic remedies, and the causes which lead up to their origin.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 7 ff.

Riedel's *Mentor* (Berlin, 1908, pp. 1–259) presents a compilation of the name, composition, properties, and uses of the more important new remedies introduced during the past 20 years, a total of upward of 5,000 titles being included.

Schieffelin, William Jay, cautions druggists not to handle synthetic chemicals offered by irregular dealers, and presents a copy of a circular issued by him on this important subject.—*Proc. N. W. D. A.*, 1908, pp. 225–227.

SYNTHETICS.

Stephenson, Thomas, discusses synthetic remedies in the next pharmacopœia and gives a short list of certain compounds which have come into use during the past few years, with a discussion of the nomenclature.—*Pharm. J.*, Lond., 1908, v. 80, pp. 567–569. (See also *Ibid.*, p. 595.)

An editorial urges the necessity for some practicable system of nomenclature for synthetics and quotes from *The Prescriber* the statement that a conspicuous feature of the B. P. C. has been the introduction of special unprotected names for new chemical substances used in medicine.—*Ibid.*, v. 80, p. 314.

Wohlgemuth, L. Max, in comparing German and American patents points out that the American patent system, with its caveats, disclaimers, reissues, interferences, affidavits, briefs, etc., is of itself so complicated and difficult to understand that at best it affords little or no actual protection to the inventor unless he is able to secure his claims by legal proceedings. He quotes one American inventor who asserts that an American patent is at best only "an introduction to court."—*Ztschr. f. ang. Chem.*, Berl., 1908, v. 21, pp. 1489–1490.

4. ANALYTICAL DATA.

1. ADULTERATIONS.

Hoton, L., defines adulteration and points out the need for differentiating between punishable adulteration and accidental contamination.—*J. de Pharm. d'Anvers*, 1908, v. 64, pp. 521–522.

Bernegau, L. Henry, calls attention to the adulteration of drugs and chemicals as found in practice. He uses the word adulterated in its broader sense to include drugs which may be of low strength or poor quality, due to natural causes, and chemicals which may in some way, perhaps by carelessness, be off in strength or purity.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 221–225.

Army. H. V., presents a report on adulterations and sophistications and concludes that too much stress can not be laid on the necessity of keeping small stocks of such a product as spirit of nitrous ether, and of diluting stronger ammonia to the official (10 per cent) strength with an eye to the real strength of the stronger ammonia and not to its strength when it left the factory.—*Midland Druggist*, 1908, v. 10, p. 14.

Farwell, A. O., discusses a number of adulterations that have been brought to his attention.—*Merck's Rep.*, N. Y., 1908, v. 17, pp. 34–35.

Dohme and Engelhardt report on the purity of some official and nonofficial drugs and chemicals. The total number of samples examined aggregated 10,072 and showed in general a much higher purity than in former years.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 814–819.

van Wermeskerken, J. L., reports on a number of samples of adulterated or impure drugs and chemicals.—*Pharm. Weekblad*, 1908, v. 45, pp. 211–215. (See also article by van der Harst, *Ibid.*, pp. 456–460.)

Utech, P. H., summarizing the report presented by J. F. Woolsey, concludes that chemicals are still ruined for pharmaceutical purposes on account of unsuitable containers, a condition frequently pointed out by the committee on adulteration.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 87.

Kebler, L. F., in discussing the difficulties encountered in enforcing the food and drug laws, points out some of the shortcomings of the Pharmacopœia and asserts that in many instances no provisions are made for excluding or permitting the presence of any foreign materials in crude drugs.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 94. (*Bull. Bur. Chem. U. S. Dept. Agric.*, 1909, No. 122.)

2. REAGENTS.

Kebler, L. F., as chairman of the committee on the testing of chemical reagents, asserts that the quality of these chemical substances has materially improved.—*Proc. Ass. Off. Agric. Chem.*, 25th Ann. Conv., pp. 127–128. (*Bull. Bur. Chem. U. S. Dept. Agric.*, 1909, No. 122.) See also *Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 431.

White, Edmund, discusses analytical reagents, standards, and tests.—*Pharm. J.*, Lond., 1908, v. 80, p. 737.

A book review calls attention to the compilation by Merck on reagents for chemical, pharmaceutical, physiological and bacteriological laboratories.—*Bot. Centralbl. Cassel.*, 1908, v. 107, p. 639.

Sörensen and Andersen discuss the use of anhydrous sodium carbonate as a basis for acidimetric titrations.—*Ztschr. f. anal. Chem.*, Wiesb., 1908, v. 47, pp. 279–294.

Phelps and Weed present observations concerning certain organic acids and acid anhydrides as standards in alkalimetry and acidimetry.—*Am. J. Sc.*, 1908, v. 26, pp. 138–148. (See also *Ztschr. f. anorg. Chem.*, 1908, v. 59, pp. 120–126.)

The *Pharm. J., Lond.* (1908, v. 27, pp. 192–196), in a discussion on volumetric analysis, gives a tabulated statement of the percentages corresponding to Ph. Brit. tests. This paper also discusses indicators and gives tables of volumetric solutions and equivalents.

Rupp, E., reviews and comments on the reagents and volumetric solutions included in the Ph. Helv. IV.—*Apoth. Ztg.*, Berlin, 1908, v. 23, p. 213.

Mindes, J., discusses normal solutions, their constitution, production and use, also the production and use of indicator solutions.—*Pharm. Post*, Wien, 1908, v. 41, pp. 421–422, 433–435.

Gawalowski, A., discusses the above communication and adds several practical suggestions. Replied to by Mindes.—*Ibid.*, v. 41, p. 498.

Neogi, Punchanan, outlines a method for precipitating metallic copper from Fehling's solution in the form of a brilliant, mirror-like film on glass vessels.—*Ztschr. f. anorg. Chem.*, 1908, v. 59, pp. 213–215.

Collitt, Bernard, discusses the alleged instability of a N/10 solution of potassium permanganate.—*Pharm. J., Lond.*, 1908, v. 27, p. 724.

Harrison and Perkin have studied the titration of permanganate in presence of hydrochloric acid and conclude that, for exact titrations, potassium permanganate can not be employed in presence of hydrochloric acid.—*Analyst*, London, 1908, v. 33, pp. 43–47.

May, Otto B., suggests that the present text in connection with starch solution, U. S. P., be changed so as to provide for boiling the solution a few minutes until a thin transparent fluid is obtained.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 210.

3. INDICATORS.

La Wall, Chas. H., believes that the question of indicators is well worth the careful attention of pharmaceutical chemists; he suggests that it no doubt has an important bearing on many of the reputed variations in the results of alkaloidal assay.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 48.

Acree and Slagle present some observations on the theory of indicators and the reactions of phthaleins and their salts.—*Am. Chem. J.*, 1908, v. 39, pp. 789–791.

"J. M." discusses the nature and use of indicators and the preferable concentration of the several solutions.—*Pharm. Post*, Wien, 1908, v. 41, p. 434.

Hewitt, John Theodore, presents some observations on the constitution of indicators used in acidimetry, reviews some of the theories which have been advanced regarding indicators, and presents a table illustrating the comparative sensitiveness of several indicators.—*Analyst*, London, 1908, v. 33, pp. 85–89.

Wehner, H. (*Gesundheits-Ingenieur*, 1908, v. 31, pp. 292–294), asserts that the frequently made statement, that phenolphthalein is a satisfactory indicator for titrating the free carbonic acid in water, is misleading.—*Chem. Repert.*, Cöthen, 1908, v. 32, p. 395.

Rupp and Loose describe and discuss the use of an alkali sensitive indicator which they call methyl-red.—*Ber. d. deutsch. chem. Gesellsch.*, Berl., 1908, v. 41, IV, pp. 3905–3908.

Frey, Otto, recommends that methyl-orange be included in the *Ph. Austr.* as a desirable indicator.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 606.

Veley, V. H., discusses the reactions between acids and methyl-orange.—*Ztschr. f. physik. Chem.*, 1908, v. 61, pp. 464–467. (See also *J. Chem. Soc.*, Lond., 1908, v. 93, pp. 2122–2144.)

Hantzsch, A., discusses the chemical theories of indicators as applied to methyl-orange and helianthin.—*Ber. d. deutsch. chem. Gesellsch.*, Berl., 1908, v. 41, II, pp. 1187–1195.

Weigel, G., points out that the *Ph. Helv.* IV enumerates methyl-orange, phenolphthalein, hematoxylin, iodeosin, and litmus as the indicators that are required by the official tests.—*Pharm. Zentralh.*, 1908, v. 49, p. 310.

Engels, Perkin and Robinson present some additional observations on brazilin and hematoxylin and their derivatives.—*J. Chem. Soc.*, Lond., 1908, v. 93, pp. 489–517, 1115–1152.

Green and King present a contribution to the theory of color in the group of triphenylmethane dyestuffs and discuss the constitution of the salts of phenolphthalein and quinol-phthalein.—*J. Soc. Chem. Ind.*, Lond., 1908, v. 27, pp. 4–9.

Linder, Ernest, discusses the use of metanil-yellow as a selective indicator for mineral gas in gaseous mixtures and also for some acids in aqueous solutions.—*Ibid.*, pp. 485–488.

†. PHYSICAL CONSTANTS.

Pearson, W. A., believes that the introduction of official methods for obtaining boiling, congealing, and melting points would give uniformity to these determinations.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 79.

Seidell, A., suggests that detailed directions for the determination of ash, volatile matter, melting point, boiling point, specific gravity,

moisture, etc., be given in the appendix to the U. S. P.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 528.

Moerk, Frank X., points out that the U. S. P. VIII states the loss of water of crystallization differently: (1) actual loss in weight; (2) loss in percentage; (3) loss in number of molecules of H_2O ; (4) combinations of the preceding.—*Ibid.*, p. 898.

SPECIFIC GRAVITY.

Murray, Benj. L., points out that practically all the available data regarding specific gravities is based on temperatures at $15^\circ C.$ and the adoption of $25^\circ C.$ brands our pharmacopœia with an unmistakable air of provincialism.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 198–200.

Seidell, A., suggests that the title of the table on pp. 635–636, U. S. P. VIII would be more explicit if it read: Table of weight and volume relations, liquids of different specific gravities.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 528.

Green, W. Heber, discusses the determination of density by means of the ordinary pear-shaped specific gravity bottle and points out some of the precautions to be observed.—Chem. News, Lond., 1908, v. 98, p. 49.

Gane and Webster outline a method for converting hydrometer degrees of Baumé or Twaddell to degrees of specific gravity.—Drug Topics, New York, 1908, v. 23, p. 213.

Bousfield, William Robert, describes and illustrates a new form of pycnometer.—J. Chem. Soc., Lond., 1908, v. 93, pp. 679–681.

Philipp Röder (Jahresbericht, Wien, 1908, p. 8) usually employs the Westphal balance in determining the specific gravity of liquids, and only in case of fuming or viscid liquids does he employ the pycnometer.

A table giving the changes in specific gravity requirements embodied in the Ph. Helv. IV is reproduced.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 217–219.

Lyons, A. B., presents a table showing the specific gravities of liquids at 15° and at $25^\circ C.$, with corrections for $1^\circ C.$, and for $1^\circ F.$ —Merck's Rep., N. Y., 1908, v. 17, pp. 66–67. (See also Am. Drug., 1907, v. 51, pp. 300–304.)

SOLUBILITIES.

Murray, Benj. L., points out that the great hosts of solubility figures are, as a rule, based on experiments made at $15^\circ C.$ and that so far as official solubilities are concerned the change, to the 25° basis, has little in its favor.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 198–200.

Lyons, A. B., suggests that the term "volume parts" will permit the Pharmacopœia to state solubilities in a way that would be at once natural and free from ambiguity.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 529.

Frey, Otto, thinks that an official method for determining the solubility of official substances would be a desirable addition to the Pharmacopœia.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 606.

Philipp Röder (Jahresbericht, Wien, 1908, p. 8) points out that, for the determination of the solubility of a substance in any given liquid, an excess of the finely pulverized substance should be shaken for two hours with the solvent, the supernatant clear liquid then removed, the solvent evaporated, and the residue weighed.

The Pharm. J., Lond. (1908, v. 27, pp. 727-729), chapter in practical pharmacy discusses solution, practically and theoretically.

Danckwortt, P., points out that the Ph. Belg. and the former Ph. Fr. are the only official books presenting a table of solubilities. Also that the Ph. Helv. defines the method in which solubility is to be determined.—Apoth. Ztg., Berl., 1908, v. 23, p. 654.

Armstrong, H. E., presents some observations on hydrolysis, hydrololation, and hydronation as determinants of the properties of aqueous solutions.—Abst. in Chem. News, Lond., 1908, v. 98, p. 1.

Centnerszwer, M., discusses the influence of the solvents on the critical temperature of solutions in methyl chloride, ethyl ether, and methyl alcohol.—Ztschr. f. physik. Chem., 1908, v. 61, pp. 356-365.

Stieglitz, Julius, presents a note on the solubility product and points out that we may well consider it for the present to be an approximate empirical principle, much in the same way as so many other important principles concerning electrolytes are still simply empirical.—J. Am. Chem. Soc., 1908, v. 30, pp. 946-954.

For additional contributions on the philosophy of solutions see article by P. Walden (Ztschr. f. physik. Chem., 1908, v. 61, pp. 633-640) and by Jones and Veazey (*Ibid.*, pp. 641-697).

For discussions on the viscosity of solutions see J. Chem. Soc., Lond., 1908, v. 93.

MELTING-POINT DETERMINATIONS.

Danckwortt, P., points out that explicit directions for determining the melting point of substances are given in the Ph. Svec., Ph. Ndl., Ph. Austr., Ph. Dan., and Ph. Helv.—Apoth. Ztg., Berl., 1908, v. 23, p. 654.

Murray, Benj. L., points out that the melting point of chemicals furnishes an excellent index of their purity and discusses the several methods that have been used for determining this factor.—Pharm. Rev., 1908, v. 26, pp. 193-196.

Frey, Otto, in discussing the Ph. Austr. VIII tests, points out that the method outlined by Anschütz is preferable to the one now official: also suggests that a range of temperature be indicated, rather than a definite melting point.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 606.

Berger, Fr., presents a compilation of the changes that are included in the Ph. Helv. IV, of boiling point requirements of official articles.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 249–252.

Kempf, Richard, discusses the use of vacuum sublimation in the production of chemically pure substances and presents a table containing the melting point of the several purified substances compared with the equivalent figures given in the literature for the commercial article.—*J. f. prakt. Chem.*, Leipz., 1908, v. 78, pp. 201, 259.

van Laar, J. J., discusses the relation of the melting point and the congealing point curves of certain binary systems.—*Ztschr. f. physik. Chem.*, 1908, v. 63, pp. 216–253; v. 64, pp. 257–297.

Güth, Heinrich, discusses the melting point determination of some of the fats and waxes official in the Ph. Germ. IV, and presents a table showing the comparative values obtained by means of the official process and the process outlined by Polenske. (*Arb. a. d. Kais. Gesundsh.-Amt* 1907, 26, 444–463).—*Pharm. Zentralh.*, 1908, v. 49, pp. 739–741.

Limbourg, H., describes and illustrates a method for determining the melting point of fats and waxes.—*Bull. Soc. chim. Belg.*, 1908, v. 22, pp. 117–119.

Ballimore, P. B., figures and describes a simple apparatus for the determination of the melting point of fatty acids, waxes, and like substances.—*Pharm. J.*, Lond., 1908, v. 27, p. 802.

BOILING-POINT DETERMINATIONS.

Danckwortt, P., points out that the Ph. Svec., Ph. Ndl., Ph. Austr. and Ph. Helv. include directions for determining the boiling point of various materials.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 654.

Berger, Fr., presents a compilation of the changes in the boiling-point requirements for the several official substances included in the Ph. Helv. IV.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 249–252.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 8) employs a fractional distillation flask for the determination of the boiling points. He points out that the mercury should be below the tubulature of the flask but should not be in contact with the boiling liquid.

Murray, Benj., L., points out that, as with melting points so the boiling point of various substances can be utilized as an index of purity. He discusses the utilization of this factor and the various

methods of determining it.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 196-197.

Frey, Otto, points out that in determining the boiling point of a substance it is important to note the temperature at which the last few drops distill over.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 606. (See also articles by Bechmann and others in Zeitsch. f. physikal. Chem., 1908.)

THERMOMETRY.

An abstract quotes B. Börnstein (Chem. Ztg. Rep., 1908, 141), who asserts that the present reversal of the centigrade scale proposed by Celsius was introduced by Linné.—Pharm. Zentralh., 1908, v. 49, p. 763.

Danckwort, P., points out that the U. S. P. VIII has adopted 25° C. as the normal temperature, while all other pharmacopœias employ 15° C.—Apoth. Ztg., Berl., 1908, v. 23, p. 655.

An editorial calls attention to a discussion on a proposed standard temperature for India, held at the meeting of the Asiatic Society of Bengal.—Chem. & Drug., Lond., 1908, v. 73, p. 203.

Gane and Webster present the following table of approximate temperatures:

	°C.
Dark red heat -----	700
Cherry red heat -----	850
Bright red heat -----	1,000
Orange heat -----	1,150
White heat -----	1,300
Dazzling white heat -----	1,500

—Drug Topics, New York, 1908, v. 23, p. 245.

POLARIZATION AND REFRACTION.

Sy, Albert P., describes and illustrates an apparatus for polarizing at 87° C.—J. Am. Chem. Soc., 1908, v. 30, pp. 1790-1791.

Sidersky, M., describes, with figures, the polarimeter of Pellin.—Ann. de chim. analyt. Par., 1908, v. 13, pp. 14-15.

Wyckoff and North suggest that the Soleil-Venzke polariscope, being accepted as standard by the United States Government laboratories, should be made official in the Pharmacopœia.—Annual Report, Lehn & Fink, 1908, p. 4.

Getman, Frederick H., describes and illustrates a simple form of polariscope.—Sc. Am. Suppl., 1908, v. 65, p. 339.

Baxter, Gregory Paul, describes and figures a modified spectroscopic apparatus.—J. Am. Chem. Soc., 1908, v. 30, pp. 577-578.

Caldwell and Whymper discuss the determination of optical rotatory power.—Proc. Roy. Soc., Lond., 1908, v. 81, Series A, pp. 112-116.

Owen, R. Cecil, discusses optical activity and gives two explanatory figures.—*Pharm. J.*, Lond., 1908, v. 27, pp. 3-4.

Bruylants, G., discusses the use of the spectroscope in the assay of aldehydes.—*Bull. Soc. roy. de pharm.*, Brux., 1908, v. 52, pp. 54-57.

Donou, Julius, reports polarimetric experiments with small quantities of liquid.—*Monatsh. f. Chemie*, Wien, 1908, v. 29, pp. 333-336, 959-963.

Bryan and Zerban, in the referee report on cooperative work done in connection with analysis of sugar, discuss the effect of clarification agents on polarization.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., pp. 173-180. (*Bull. Bur. Chem.*, U. S. Dept. Agric., 1909, No. 122.)

Getman and Wilson present a study of the refractive indices of some solutions to determine the relation of specific refraction to hydration.—*Am. Chem. J.*, 1908, v. 40, pp. 468-484.

Weigel, G., presents a table giving the optical rotation of the official, Ph. Helv. IV volatile oils, also a table giving the optical rotation of fats and fatty oils.—*Pharm. Zentralh.*, 1908, v. 49, pp. 311-312.

An editorial points out that, in the Ph. Svec. IX, polarimetric estimation is only given in connection with oil of lemon and santal oil.—*Am. Druggist*, N. Y., 1908, v. 53, p. 344.

A book review points out that in the volume by Ernest J. Parry, on "The Chemistry of Essential Oils and Artificial Perfumes," considerable attention is devoted to the use of the refractometer for the optical examination of essential oils.—*Pharm. J.*, Lond., 1908, v. 27, p. 721.

Andrews, Launcelot W., presents observations on the refractive indices of alcohol-water mixtures.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 353-360.

Patterson, Thomas Stewart, presents a contribution on the influence of solvents on the rotation of optically active compounds, in which he discusses the relationship between constitution and solvent effect and the influence of temperature changes on rotation in solution.—*J. Chem. Soc.*, Lond., 1908, v. 93, pp. 1836-1857.

Pope and Read report observations on the optical activity of compounds having simple molecular structure.—*Ibid.*, 1908, v. 93, pp. 794-798.

v. Kazay, Endre, discusses the significance of refractometric examinations in pharmacy and points out the possibility of determining the structure of complex molecules having apparently the same composition.—*Pharm. Post*, Wien, 1908, v. 41, pp. 992-993.

Sundwik, Ernst Edward, presents a contribution on the quantitative analysis of organic mixtures by means of the refractometer.—*Pharm. Zentralh.*, 1908, v. 49, pp. 783-787.

Beythien, commenting on the above, admits the claim for priority made by Sundwik.—*Ibid.*, 1908, v. 49, p. 837.

Bryan, A. Hugh, discusses the estimation of dry substance by the refractometer in liquid saccharine food products.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1443–1451.

For additional references on polarization and refraction see *Exp. Sta. Rec. and Abstr. J. Chem. Soc., Lond.*

5. APPARATUS.

Green, W. Heber, presents some notes on laboratory apparatus and discusses (1) the determination of density by means of the ordinary pear-shaped specific-gravity bottle; (2) a simple but extremely sensitive form of thermo-regulator, in which toluene is used as the expanding liquid; (3) a sensitive temperature compensated barometer.—*Chem. News, Lond.*, 1908, v. 98, pp. 49–50.

Jansen, B. C. P., discusses the use of the centrifuge in qualitative analysis.—*Chem. Weekblad*, 1908, v. 5, pp. 591–593.

Bettink, H. Weefers, describes and illustrates an apparatus for washing voluminous precipitates.—*Pharm. Weekblad*, 1908, v. 45, pp. 597–600.

Bone and Wheeler describe and illustrate an accurate form of gas-analysis apparatus for commercial and other purposes.—*J. Soc. Chem. Ind., Lond.*, 1908, v. 27, pp. 10–12.

Hill, Arthur Edwin, describes and figures a new form of potash bulb which he believes presents a number of advantages.—*Chem. News, Lond.*, 1908, v. 98, p. 38.

Schmatolla, O. K., describes and figures a flat test tube, which he believes has the advantage that smaller quantities of solutions can be used.—*Chem. Ztg., Cöthen*, 1908, v. 32, p. 880.

v. Bolton, Werner, describes and illustrates an Erlenmeyer flask which he has modified in shape.—*Ibid.*, p. 1201. (See also *Apoth. Ztg., Berl.*, 1908, v. 23, p. 239.)

Müller, Gustav, describes and illustrates a burette holder that is adjustable so as to provide for holding the burette absolutely vertical.—*Ztschr. f. ang. Chem.*, 1908, v. 23, p. 2318.

Wittels and Welwart describe and illustrate a burette designed for the ready estimation of the unsaponifiable portions of oils and fats.—*Chem. Ztg., Cöthen*, 1908, v. 32, p. 941.

Tschaplowitz, F., describes and figures a shortened and double burette, which he believes has certain advantages for rapid and accurate work.—*Ztschr. f. anal. Chem., Wiesb.*, 1908, v. 47, pp. 697–698.

Gawalowski, A., describes and figures a reaction turbine designed to facilitate the mixing of the reagents and accelerate the reaction.—*Ibid.*, p. 697.

Rubicius, Hans, describes and figures a combination Bunsen burner and apparatus stand.—Chem. Ztg., Cöthen, 1908, v. 32, p. 177.

Dowzard, Edwin, describes and illustrates a pressure equalizing attachment for desiccators.—Am. J. Pharm., Phila., 1908, v. 80, p. 588.

Süchting, H., describes and illustrates a vacuum stirring device.—Ztschr. f. anal. Chem., Wiesb., 1908, v. 47, pp. 755–756.

Morgan and Cook describe and figure an apparatus for quantitative estimations involving distillation.—Analyst, Lond., 1908, v. 33, pp. 117–121.

Bueler, H., describes and figures an apparatus for distilling *in vacuo*.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 56.

Richards and Mathews discuss and illustrate a method for the use of electrical heating in fractional distillation.—J. Am. Chem. Soc., 1908, v. 30, pp. 1282–1284. (See also Ztschr. f. physik. Chem., 1908, v. 64, pp. 120–123.)

Speter, Max, presents a review of the history of Liebig's condenser, with illustrations and a bibliography.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 3–5.

The Pharm. J., Lond. (1908, v. 26, pp. 681–682, v. 27, pp. 5–6, 31–32, 106–108), chapters in practical pharmacy discuss the subject of distillation, pharmaceutical stills, and distilled-water apparatus, etc.

Wood, Horatio C., Jr., describes and figures a modification of the Soxhlet extractor.—Am. J. Pharm., Phila., 1908, v. 80, p. 106.

Brandel and Kremers present illustrations and short descriptions of a variety of apparatus used in the percolation of drugs.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 51–55, 74–75, 263–270.

Holmes, Mary E., reports experiments with the use of the rotating anode in electrolytic separations.—J. Am. Chem. Soc., 1908, v. 30, pp. 1865–1874.

Gooch and Beyer describe and illustrate the application of the crucible filter to electro analysis.—Ztschr. f. anorg. Chem., 1908, v. 58, pp. 65–72. (See also Am. J. Sc., 1908, v. 25, pp. 249–255.)

"F. R." describes and illustrates an apparatus designed to facilitate the administration of medicines.—Ann. de pharm., Louvain, 1908, v. 14, pp. 453–454.

6. FILTERS.

Lyons, A. B., presents several tables showing the capacity of filters and funnels of varying diameter, also a table showing ratio of increase of capacity to increase in diameter.—Am. Druggist, N. Y., 1908, v. 53, p. 345.

Elborne and Warren present a note on the occurrence of copper in filter paper, and point out the possible influence of this contamination on sirups clarified with such paper.—Merck's Rep., N. Y., 1908, v. 17, p. 270.

Brewer, Justin S., describes and illustrates an apparatus for continuous filtration.—*Oil, Paint, and Drug Reporter*, N. Y., 1908, v. 73, May 4, p. 40.

An editorial discusses the clarification of tinctures, and points out that the brightening of preparations of this kind by filtration entails a knowledge of the constituents of the drug and the application of suitable measures to avoid injuring the resulting preparation.—*J. d. Pharm.* v. Elsass-Lothringen, 1908, v. 34, pp. 137-139.

La Wall, Charles H., discusses the use of kieselguhr as a filtering medium, and reports some comparative experiments to show the relative absorptive value of the various substances recommended as filtering media.—*Am. Druggist*, N. Y., 1908, v. 53, p. 6. (See also Merck's Rep., N. Y., 1908, v. 17, p. 269.)

A report from Consul Robert J. Thompson, of Hanover, on kieselguhr, its occurrence, method of handling, and details of the methods of preparing this article for the market is reprinted.—*Oil, Paint, and Drug Reporter*, N. Y., 1908, v. 73, April 27, p. 40.

An abstract (from *Journal of the Royal Society of Arts*) describes German kieselguhr, its origin, and the method employed in preparing it.—*Sc. Am. Suppl.*, 1908, v. 66, p. 227.

Hallberg, C. S. N., recommends gray filter paper for filtering sirups and similar preparations. He asserts that this paper is thicker than white paper and filters more readily.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 966.

7. COLOR STANDARDS AND COLORS.

Steiger, George, describes and illustrates a new form of colorimeter.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 215-219.

An editorial, discussing color standards for pharmaceuticals, points out that uniformity of color in pharmaceutical preparations, made by different pharmacists, is a desideratum.—*Nat. Druggist*, St. Louis, 1908, v. 38, p. 2.

Feil, Joseph, suggests the use of an official color chart as a standard for the color exhibited by a layer of liquid of specified depth.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 111.

An editorial calls attention to the complications that may arise from a variation in the color of pharmaceutical preparations and suggests that the U. S. P. be made to include satisfactory descriptions or tests for colors and shades of color.—*D.-A. Apoth.-Ztg.*, N. Y., 1908-9, v. 29, p. 6.

The committee on N. F. has undertaken the study of coloring agents and their uses, and the practicability of standardizing either the coloring agents themselves or the color of the preparations in which they are used.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 490.

Pearson, W. A., believes that the various shades of color could easily be standardized by comparing them with a standard chart such as accompanies certain textbooks on organic chemistry.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 79.

Wangeman, M., suggests that the proposed standard colors to be incorporated in the N. F. might be printed on transparent material and arranged so that they may be taken out and held alongside the container, so as to compare the tints to better advantage.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 188.

Caspari, Charles E., doubts the utility of introducing color standards, as it is well known that the therapeutic value of preparations does not depend upon the color. *Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 932.

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Fiehe, J., presents a popular exposition of the biological reactions of the blood and the part taken by opsonins.—Pharm. Ztg., Berl., 1908, v. 53, p. 920.

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Matthews, John, presents some notes on the therapeutic application of stock vaccines in the treatment of bacterial infections.—*Lancet*, 1908, v. 175, pp. 925-931.

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An editorial discusses the grievances of American importers and London exporters under recent United States customs rulings.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 865.

The report of the Bureau of Chemistry points out that the quality of drugs imported has materially improved.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 430.

Rusby, H. H., in a comprehensive review of the crude and powdered drugs offered for import at the port of New York during 1907-8, calls attention to a number of specific cases of adulteration.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 794. See also *Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 136. (*Bull. Bur. Chem.*, U. S. P. Dept. Agric., 1909, No. 122.)

The American Pharmaceutical Association adopted resolutions urging the Secretary of Agriculture and the Secretary of the Treasury to take such steps as may be necessary to secure absolute uniformity in the administration of the laws governing the admission of drugs at the several ports of the United States.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 537.

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Carr and Reynolds discuss the variation in activity of commercial crude drugs and give a tabulated statement of their results, with some comments on the causes of these variations.—*Ibid.*, v. 80, pp. 542-544.

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Schneider, Albert, presents a compilation of literature relating to medicinal plants and drug-plant culture, with a subject index to the literature.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 201-214, 236-245.

Eriksson, Ella, discusses, with illustrations, the comparative anatomy and development of the stalks of official varieties of the *Labiata*.—*Ber. d. pharm. Gesellsch.*, Berl., 1908, v. 18, pp. 242-251. (See also article by Mitlacher, *Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 1, ff.)

Mitlacher, W., calls attention to the publication of a comprehensive handbook on pharmacognosy by A. Tschirch.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, pp. 470-472, 695-696.

Gram, Bille, discusses the pharmacognosy of the Ph. Dan. VII.—*Arch. f. Pharm. og. Chem.*, Copenhagen, 1908, v. 15, pp. 7 ff.

Hanausek, Eduard, presents a review of the articles bearing on pharmacognosy published during the year 1907.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 605-606, 618-619, 647-648.

Tschirch, A., reviews the development of drug-plant illustrations from the time of Kratæua to the present time.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 169-170.

Kebler and Chestnut present a communication in which they describe the National Museum Herbarium and its possible utilization in connection with drug research.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 935-940.

Brandel, I. W., continues his review of the nature and composition of plant pigments; also presents a botanical classification and outlines a theory of plant pigmentation.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, p. 44 ff.

A review of the literature for 1908 relating to colors and color changes in plants is presented.—*Jahresb. ü. Tier-Chem.* for 1908, Wiesb., 1909, v. 38, p. 728.

Strzysowski, C., reports observations on the changes in color, odor, and other physical properties of drugs and chemicals produced by liquid air.—*Pharm. Post*, Wien, 1908, v. 41, pp. 268-272.

1. POWDERED DRUGS.

Kraemer, Henry, believes that practically all of the more recent foreign pharmacopœias include descriptions of the microscopical appearance of powdered drugs and are, in this respect at least, ahead of the U. S. P.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 48. (See also *Am. J. Pharm.*, Phila., 1908, v. 80, pp. 81-92, 95.)

An editorial asserts that the microscopical examination of powdered drugs is a feature which was carefully considered by the committee of revision of the U. S. P. and was considered to be as yet out of place in the pharmacopœia of this country.—*Meyer Bros., Drug.*, St. Louis, 1908, v. 29, p. 3.

A book review calls attention to a volume on the introduction to the microscopical analysis of drug powders by L. Koch, and points out that the newer pharmacopœias all require that the apothecary exercise strict supervision over vegetable drugs and the powders prepared from them.—*Bot. Centralbl.*, Cassel., 1908, v. 107, pp. 175-176.

Klut, H., describes and figures a microscope designed for the use of apothecaries.—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 507.

Reichert, C., describes, with illustrations, some of the newer apparatus used in showing ultra-microscopic particles and bacteria in unstained preparations.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, pp. 73-75.

Annibale, Ferraro, presents observations on the microscopic analysis of soluble and crystallizable substances.—*Boll. chim. farm.*, Milan, 1908, v. 47, pp. 789-790.

Nonnottee and Sartory describe a process for the preservation of vegetable microscopic preparations.—*Compt. rend. Soc. de biol. Par.*, 1908, v. 64, p. 1136.

Schneider, Albert, presents a series of papers on the microscopical examination of drugs, foods, and textile fabrics.—*Merck's Rep.*, N. Y., 1908, v. 17, pp. 229-230, 298, 328-329.

Marris, G. W., discusses the microscopical examination of powdered drugs.—*Pharm. J.*, Lond., 1908, v. 26, pp. 679-681.

Rusby, H. H., discusses the macroscopy and microscopy of drugs and points out the importance of identifying crude drugs before basing an opinion on chemical assay.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., pp. 136–139. (*Bull. Bur. Chem. U. S. Dept. Agric.*, 1909, No. 122.) See also *Am. Druggist*, N. Y., 1908, v. 53, p. 381.

Lothian, John, calls attention to the fact that the examination of powdered drugs has not received the recognition to which it is entitled.—*Pharm. J.*, Lond., 1908, v. 80, p. 566.

Alcock, F. H., reports experiments made to determine the nature and the value of samples of powdered drugs that had been brought to his attention.—*Year-Book of Pharmacy*, 1908, pp. 426–430. (See also *Pharm. J.*, Lond., 1908, v. 27, p. 353.)

Utech, P. H., summarizing the report presented by J. F. Woolsey, concludes that powdered drugs are not reliable, often yielding higher ash content than permissible. All ipecac was found “high in alkaloïds,” on account of lowering the standard to 1.75.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 87.

Danckwortt, P., points out that while all pharmacopœias discuss the degree of fineness of powders, either in separate articles or in the introductory chapters, there is as yet little unanimity in the requirements made in different countries.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 655.

The *Pharm. J.*, Lond. (1908, v. 27, pp. 589–590), chapter in practical pharmacy discusses the sifting and mixing of drugs, with several figures of the apparatus used.

2. VALUATION OF VEGETABLE DRUGS.

Eldred, Frank R., discusses the sampling of drugs and their preparation for assay and calls attention to the difficulty of securing representative samples of drugs.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 831–833.

Caesar & Loretz (*Geschäfts-Bericht*, 1908, p. v) point out that for representative sampling of narcotic herbs it is necessary to remove at least several kilos of the drug, carefully grind and thoroughly mix the same, and then use a sufficient quantity of this powder for the assay and any additional tests that are desired.

Albahary, J. M., presents a method for the complete analysis of vegetable matters.—*Compt. rend. Acad. d. Sc. Par.*, 1908, v. 146, pp. 336–338.

Cliffe, William L., in discussing the official standards and tests from the standpoint of the retail druggist, asserts that the pharmacist as the distributor of pharmacopœial drugs and their preparations is the one to whom the public will look for the maintenance of the standards.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 43.

A book review asserts that the standardization of drugs and galenical preparations in the Ph. Fr. V is somewhat disappointing, much recent work not finding a place in its pages.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 381.

Umney and Bennett contribute a paper on standards for alkaloidal drugs and their fluid extracts, giving a tabulated statement of minimum standards.—*Pharm. J. Lond.*, 1908, v. 27, pp. 344-346. (For discussion see p. 409.)

Spaeth, Eduard, outlines methods for the chemical examination of spices and the determination of the several constituents.—*Pharm. Zentralh.*, 1908, v. 49, pp. 539-542.

Frey, Otto, questions the propriety of determining the extract content of the air dry drug as directed in the Ph. Austr. VIII because of the variation in moisture.—*Ztschr. d. allg. österr., Apoth.-Ver.*, Wien, 1908, v. 46, p. 606.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 8) outlines methods for determining the moisture and extract content of drugs.

3. ASH DETERMINATIONS.

Hanausek, Eduard, points out that the ash determinations of the Ph. Austr. VIII are of importance in view of the fact that many, if not all, of the drugs are now obtained by the apothecary in the powdered form and the nature and quantity of ash is usually an important indication of purity.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 605.

Harvey, T. F., concludes an interesting paper on pharmacopœial standards with the assertion that it can not be too strongly emphasized that no good purpose is served by the adoption of too stringent limits for ash, etc.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 905.

Danckwortt, P., points out that the Ph. Austr., Ph. Belg., and the Ph. Helv. include limitations for ash content of many important drugs.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 654.

Rupp, E., presents a table giving the maximum ash content permitted by the Ph. Helv. IV and the Ph. Austr. VIII.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 244.

Petkoff, N., discusses the practicability of using the alkalinity of residual ash as an indication of the nature of the adulterant of spices.—*Ztschr. f. öffentl. Chemie*, 1908, v. 15, pp. 81-86.

Moerk, Frank X., believes that a method for determining ash should be described in the U. S. P., as it frequently makes considerable difference if the determination be made in platinum or in porcelain.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 898.

Frey, Otto, discussing the Ph. Austr. VIII, points out that no method for determining the ash content of drugs is provided and questions the advisability of depending on the determination of the

ash content of the air dry drug.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 606.

Philipp Röder (Jahresbericht, Wien, 1908, p. 9) determines the amount of ash in drugs in an open crucible which is heated at first slowly and, after the contents are fully carbonized, is heated in a strong flame to constant weight.

4. GLUCOSIDES.

Hallberg, C. S. N., asserts that there are a great many drugs, particularly of glucosidal character, which vary considerably according to the season and method of collection and so on.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 48.

An abstract calls attention to the preservation of glucosides from decomposition during the preparation of solid extracts.—Proc. Am. Pharm. Ass., 1909, v. 57, p. 389.

A review of the literature for 1908 relating to the chemistry and properties of glucosides is presented.—Jahresb. ü. Tier-Chem., for 1908, Wiesb., 1909, v. 38, p. 721.

5. ALKALOIDS.

Schmidt, Ernst, presents a comprehensive review of the recent progress made in the chemistry of alkaloids.—J. de pharm. et de chim., Par., 1908, v. 27, pp. 58-71, 115-127.

Gössling, W., reviews the advances made in the chemistry of alkaloids.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 389-390, 406-408, 420-421.

Gordin, H. M., continues his review on the progress in alkaloidal chemistry during the year 1906.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 9, ff.

A review of the literature for the year 1908 relating to the chemistry and properties of alkaloids is presented.—Jahresb. ü. Tier-Chem., for 1908, Wiesb., 1909, v. 38, pp. 721-728.

Heikel, Gunnar, presents a table showing the amount of Mayer's reagent necessary for the precipitation of 0.10 gm. of alkaloid and the probable error.—Chem. Ztg., Cöthen, 1908, v. 32, p. 1212.

An editorial calls attention to the chemistry of picrolonic acid and its possible application as a precipitant for alkaloids.—Merck's Rep., N. Y., 1908, v. 17, p. 184.

Howard and Stephenson present a preliminary study of the microchemical analysis and identification of alkaloids.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., pp. 97-100. (Bull. Bur. Chem. U. S. Dept. Agric., 1909, No. 122.)

Veley, Victor Herbert, discusses the affinity of certain alkaloids for hydrochloric acid.—J. Chem. Soc., Lond., 1908, v. 93, pp. 2114-2122. See also Pharm. J., Lond., 1908, v. 27, p. 693.

Webster, M. H., discusses the stability of alkaloidal extracts.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 172.

Umney and Bennett present in tabular form the drugs official in the U. S. P. that have active principle standards, with the corresponding standards in the Ph. Brit. and the standards proposed by Umney.—*Yearbook of Pharmacy*, London, 1908, pp. 513–519.

Kremel, A., presents a table showing the strength of drugs official in the Ph. Helv. IV: *Cortex chinæ*, 6.5 per cent; *cortex granati*, 0.5 per cent; *folia belladonnæ*, 0.35 per cent; *folia cocæ*, 0.70 per cent; *folia hyoscyami*, 0.10 per cent; *guarana*, 4 per cent; *opium*, 10–12 per cent; *radix belladonnæ*, 0.40; *radix ipecacuanhæ*, 2.00; *rhizoma gelsemii*, 0.25 per cent; *rhizoma hydrastidis*, 2.00; *rhizoma veratri*, 1.00; *semen arecæ*, 0.50; *semen colæ*, 1.50; *semen sabadillæ*, 3.50; *semen stramonii*, 0.29; *semen strychni*, 2.50; *tuber aconiti*, 0.80.—*Pharm. Post*, Wien, 1908, v. 41, p. 18. (See also paper by Weigel, *Pharm. Zentralh.*, 1908, v. 49, p. 306.)

6. ASSAY PROCESSES.

Parker, C. E., reports the cooperative work done on the assaying of alkaloidal drugs. He points out that, when the present U. S. P. assay processes were adopted, the probability that they would be the basis for general legal regulation was somewhat vague and therefore a high degree of accuracy did not appear important. He asserts that, from the point of view of the official chemist and prospective expert witness before the courts, the cooperative work as far as it has gone has not shown that the pharmacopœial methods lead to fairly uniform results in different hands.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 129. (*Bull. Bur. Chem.*, U. S. Dept. Agric., 1909, No. 122.)

Umney and Bennett, in commenting on the U. S. P. assay processes, think that aliquot part methods of assay are not to be recommended on account of the difficulty of obtaining an accurate proportion of the solvent.—*Year-Book of Pharmacy*, London, 1908, p. 517. (See also *Pharm. J.*, Lond., 1908, v. 27, p. 345.)

The A. Ph. A. committee on U. S. P. believes that it is unfortunate that the details of the really arduous work done by the subcommittee which decided upon the present assay processes were never given to the public. The details of this work would be a very great help to any subsequent committee doing work of this kind.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 527.

Moerk, Frank X., points out that in official alkaloidal assays the quantity of V. S. is only given in the tables, pp. 569–575; in the recent corrections of the U. S. P. the percentages were changed in these

tables, but in no instance was a change made in the number of c. c. of the V. S. to conform to the new percentage strength.—*Ibid.*, 1908, v. 56, p. 900.

Beringer, George M., points out that the alkaloidal assay processes need revision and that this work should be done by competent experts not associated with the present accepted methods.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 432. (See also *Proc. New Jersey Pharm. Ass.*, 1908, pp. 90–91.)

Pearson, W. A., believes that more liquid should be recommended in several alkaloidal assays for extraction and washing purposes.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 79.

An unsigned article presents a compilation of assay methods for official drugs, including a selection of the more interesting processes described in the annual report by Caesar & Loretz.—*Chem. & Drug.*, Lond., 1908, v. 72, pp. 21–22.

Gane and Webster assert that the simple general method of alkaloidal assay outlined by M. H. Webster in an article contributed to the *American Journal of Pharmacy* (July, 1907) continues to give satisfactory results in most cases. They present a number of comparative results with the U. S. P. processes.—*Drug Topics*, New York, 1908, v. 23, pp. 132–133.

"J. K." discusses the use of picrolonic acid, as proposed by Matthes and Rammstedt, for the determination of alkaloids.—*Pharm. Zentralh.*, 1908, v. 49, pp. 774–775.

Heikel, Gunnar, discusses the use of potassium mercuric iodide for the quantitative estimation of plant alkaloids.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 1149–1150, 1162–1163, 1186–1187, 1212–1213.

Turner, J. L., believes that the periodide method for determining the alkaloidal content of drugs and mixtures could be developed into giving satisfactory results.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 48.

Linde, O., presents some additional observations on the volumetric estimation of alkaloids.—*Arch. d. Pharm.*, 1908, v. 246, pp. 78–80.

Howard and Stephenson present a preliminary study of the microchemical analysis and identification of alkaloids, and suggest the application of this method to the quantitative determination of alkaloids in drugs.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., pp. 97–100. (*Bull. Bur. Chem. U. S. Dept. Agric.*, 1909, No. 122.)

Kremel, A., in discussing the *Ph. Helv.* IV, asserts that the alkaloidal estimations of potent drugs are based on a comparatively simple procedure. The method is outlined and the alkaloidal requirement for the several drugs is given.—*Pharm. Post*, Wien, 1908, v. 41, pp. 18–19.

Andresen, Siegfried, asserts that the assay methods of the *Ph. Dan.* VII are remarkable for their reliability and accuracy; in the

instances where the available methods appeared to be unreliable they were omitted.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 78.

Kippenberger, C., presents a number of corrections of statements contained in the article by Rammstedt on quantitative estimation of alkaloids. (*Apoth. Ztg.*, 1907, v. 22, pp. 1103 and 1117.)—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 16. (See also p. 190 and p. 360.)

Linde, O., replies to the criticisms offered by Kippenberger (*Pharm. Ztg.*, 1908, p. 16) regarding the use of mercuric chloride as a precipitant for alkaloids.—*Apoth. Ztg.*, Berl., 1908, v. 23, pp. 266–267.

La Wall, Chas. H., thinks that many of the reported variations in results of alkaloidal assay are due to careless sampling or to minor differences in the technique. The question of indicators he believes to be an important one.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 48.

Puckner, W. A., presents a review of recent progress in the chemistry of alkaloid estimations.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 66–74.

Stewart, F. E., points out that the frequently made claim that a preparation is assayed because made from the assayed drug is unwarranted. He asserts that manufacturers would not allow a fluid extract to go on the market until the preparation itself has been assayed so as to see whether the process of percolation has been complete.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 47.

La Pierre, E. H., in discussing the practicability of the pharmacist assaying his own preparations, asserts that it is not only practicable but also desirable. He adds that the cost of assaying is simply a matter of time, not of material.—*Apothecary*, Boston, 1908, v. 20, p. 129.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 9), asserts that the emulsions frequently formed in chloroform containing liquids can be broken by stirring with a medium thin wire. He also recommends filtering the chloroform extractive to avoid the mechanical inclusion of particles not in solution.

7. PHYSIOLOGICAL STANDARDIZATION.

Hommell, P. E., suggests the introduction of physiological tests in the U. S. P. for some of the more important and valuable drugs, as digitalis and its preparations.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 106.

Edmunds, C. W., points out the desirability for establishing national standards to which all manufacturers will agree. At present each manufacturer may assay his own preparation, but only to his own standard, which differs from other manufacturers' standards.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 49. (See also p. 81.)

Walters, Arthur L., in a general way discusses the methods used in the physiological testing of drugs.—Proc. Indiana Pharm. Ass., 1908, pp. 39-41.

Forbes, J. W., makes some amusing comments on the question of physiological standardization.—Proc. Ohio Pharm. Ass., 1908, p. 34.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. vi) discuss the need for physiological control of drugs like digitalis and strophanthus and call attention to several recent papers in which this need is further emphasized.

Salant, William, discusses the necessity for animal experimentation in determining the purity and strength of medicinal preparations and calls particular attention to the need for controlling preparations of digitalis and ergot.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., pp. 103-105. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Edmunds and Roth present a communication on the physiological assay of nitroglycerin tablets, digitalin tablets, and fluid extract of ergot.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, pp. 33-43.

An editorial (Lancet, 1908, v. 174, p. 1499) commenting on the report of Carr and Reynolds (Pharm. J., Apr. 25) on the variability of vegetable drugs remarks that these variations in strength are attributable to many causes, including differences in soil, climate, and time and mode of harvesting. Since these factors are beyond the control of those who are responsible for the preparation of medicines, the great importance of chemical and physiological standardization is evident.

An editorial (Brit. M. J., Lond., 1908, v. 2, p. 1187) commends the recently published Chemical Basis of Pharmacology, by Francis and Fortescue-Brickdale.

Reed, E. D., describes his method for the standardization of preparations of digitalis by physiological means.—Am. J. Pharm., Phila., 1908, v. 80, pp. 110-114.

Crawford, Albert C., presents some notes on physiological testing, its applicability and its possible adaptation to the control of the active constituents of drugs.—*Ibid.*, 1908, v. 80, pp. 321-335.

Fardon, Harold J., reports some observations on the action of drugs on the mammalian uterus.—Biochem. J., Liverpool, 1908, v. 3, pp. 209-221.

Peterson, F. J., outlines a key to the testing of drug actions and asserts that Eclectics fully understand that there is virtue in medicine in various forms and strengths, and for that reason use drugs, no matter in what strength, if they meet certain indications, and thus conform to our system of specific medication.—Eclectic M. J., Cincin., 1908, v. 68, pp. 22-25.

Mundy, W. N., asserts that many mistakes have been and will be made by relying upon a laboratory study of drug action.—*Ibid.*, 1908, v. 68, p. 67.

An editorial asserts that a physiological action is a poisonous action, and that no therapist would insist that a remedy must possess a poisonous action in order to have a remedial action.—*Ibid.*, 1908, v. 68, pp. 66-67.

7. PHARMACEUTICAL PREPARATIONS.

Osborne, O. T., enumerates the number and the variety of pharmaceutical preparations in the Pharmacopœia and points out that he does not advocate the use of this heterogeneous mass of preparations, but does suggest that every physician can, with the aid of his druggist, select the few formulas that he will use that will be as elegant and as pleasant means of giving drugs as proprietary preparations, and more, will represent guaranteed doses of the ingredients.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 134.

Mittlebach, William, in discussing the multiplicity of fixed formulas, asserts that in this age of mad experimentation pharmacy is fast becoming a lost art and a hand-me-down vocation.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1041.

Fussell, M. Howard, severely criticizes fixed formulas for medicinal preparations and concludes that physicians should use simple drugs or simple combinations of drugs of known value, directed to the condition found.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, pp. 9-19.

Hommell, P. E., discusses some new preparations which, in his opinion, should merit official recognition.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 106.

Richaud and Bidot outline tests for the differentiation of preparations of leaves, roots, and seeds of drug plants.—*J. de pharm. et de chim., Par.*, 1908, v. 27, pp. 278-280. (See also *Répert. d. pharm., Par.*, 1908, v. 20, p. 130.)

Thoms, H., presents a comparative review of the manufacture of medicaments in ancient and modern times.—*Ber. d. pharm. Gesellsch., Berl.*, 1908, v. 18, pp. 368-394.

An editorial points out that it is not altogether to the credit of the drug trade that so many boards of health and boards of pharmacy report that a large percentage of standard pharmaceuticals are deficient in strength and comments on the report made by H. E. Barnard, chemist to the State board of health of Indiana, on the reasons for this deviation from the required strength.—*Drug Topics*, New York, 1908, v. 23, pp. 289-290.

Scudder, J. K., asserts that the reputation of both the Eclectic and Homœopathic schools for the past 30 years has been staked on the general reliability of pharmaceutical preparations of definite strength, the detail of manufacture and menstruum being appropriate to each plant remedy.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 184.

1. GENERAL FORMULAS.

Wilbert, M. I., points out that with one notable exception, suppositories, the U. S. P. has not followed the generally widespread European practice of having an official definition for the several available forms of medicines. The National Formulary, on the other hand, includes a number of descriptions of this nature.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1063.

Hallberg, C. S. N., calls attention to some of the desirable features in connection with the general formulas or descriptions given in the National Formulary.—*Ibid.*, 1908, v. 56, p. 1066.

"Gnomon," commenting on the need for reliable information regarding the making of pharmaceutical preparations on a small scale, says information on the subject is available, but in a scattered form, and we sadly need a book on practical pharmacy after the style of the old "Mohr and Redwood," which shall contain clear and precise instruction for preparing medicines in the less usual forms. It would be none the worse if it also contained information regarding the various methods (other than official) of preparing tinctures, ointments, pills, etc.—*Pharm. J.*, Lond., 1908, v. 26, p. 56.

Neathercoat, E. T., points out that the new series or groups of pharmaceutical preparations that have been described in the B. P. C. are not alone of practical use to the pharmacist, but are also illustrative of what a first-class pharmaceutical product should be.—*Ibid.*, 1908, v. 26, p. 416.

Blair, Henry C., discusses the construction of official formulas and deprecates the number of fixed formulas included in the U. S. P. and the National Formulary. He asserts that if the pharmacist is given a medicinal substance, and informed as to the dose, he should be able, with a very few experiments, to make a palatable and attractive preparation, superior to any proprietary preparation, and differing in color and flavor from other preparations. Pharmaceutical preparations should differ in color, taste, appearance, and smell from each other, so that physicians and pharmacists can readily tell them apart, and the public be given a variety in flavor.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 1023-1024.

Grier, James, discusses the coloring, flavoring, and sweetening agents of the B. P. C.—*Pharm. J.*, Lond., 1908, v. 27, pp. 130-132.

FORMS OF MEDICAMENTS.

Martindale, W. Harrison, outlines methods for making glycerin extracts of official drugs which he designates as glyctracts. He reviews some of the previous attempts to make preparations of this kind and presents a list of the drugs that he has experimented with.—*Chem. & Drug.*, Lond., 1908, v. 72, pp. 489-490.

Beringer, George M., presents an article on fluid glycerates of a number of official drugs and outlines the process required in each case.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 981-1006. (See also *Am. J. Pharm.*, Phila., 1908, v. 80, pp. 525-554, and *Am. Druggist*, N. Y., 1908, v. 53, pp. 223-224, 253-254.)

Many of the formulas for complex pharmaceutical preparations included in the *Ph. Japon.* III are reprinted.—*Chem. & Drug.*, Lond., 1908, v. 72, pp. 160-161.

A number of the formulas for complex preparations contained in the *Ph. Helv.* IV are reprinted.—*Pharm. Zentralh.*, 1908, v. 49, pp. 405-407, 424-425, 484-485.

2. CHANGES IN STRENGTH.

Diehl, C. Lewis, presents a report on the effect of age on the preparations made according to the National Formulary.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 494-506.

Gane and Webster assert that their investigations, extended over some years, would indicate that the majority of pharmaceuticals when properly prepared and stored are perfectly stable preparations. They believe that there is no considerable foundation for the statement that alkaloidal extracts properly prepared lose strength on keeping.—*Drug Topics*, New York, 1908, v. 23, p. 181. (See also under the several drug headings.)

3. STANDARDIZATION.

Stewart, F. E., points out that a pharmacist is not at liberty to assume that a preparation is standardized because it is made from a standardized drug. He asserts that no pharmacist conducting the operation of percolation is in position to state that his finished product corresponds to the standards of the Pharmacopœia without assaying the finished product.—*Tr. Am. M. Ass.*, Sec. Pharm. and Therap., 1908, p. 140.

Francis, John M., in discussing proposed color standards for fluid extracts, points out the difficulty of complying with such proposed standards, unless aniline dyes or other artificial methods are used to regulate the standard color. He asserts that the drug market is in

such a condition that it is impossible to purchase drugs that will yield preparations of standard color.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 932.

4. REQUIREMENTS.

An editorial expresses the belief that there is need for the insertion in the Pharmacopœia of descriptions of the finished product, particularly where such a description may be a guide to the efficacy of the preparation.—Am. Druggist, N. Y., 1908, v. 53, p. 219.

Diekman, G. C., asserts that the Pharmacopœia is at fault in not giving physical descriptions of galenicals.—Drug. Circ., N. Y., 1908, v. 52, p. 633.

Beringer, George M., believes that the average alcohol content of official preparations should be given in connection with the formula.—Am. J. Pharm., Phila., 1908, v. 80, p. 431. (See also Proc. Am. Pharm. Ass., 1908, v. 56, p. 527.)

Raubenheimer, Otto, suggests that the A. Ph. A., through its committee on N. F., prepare an official table of the alcohol content of N. F. preparations.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 79.

5. GALENICALS.

Danckwortt, P., discusses the methods adopted in the several official pharmacopœias for giving the quantities and processes for making the several pharmaceutical preparations.—Apoth. Ztg., Berl., 1908, v. 23, p. 654.

An editorial, in commenting on the pharmaceutical preparations contained in the Ph. Fr. V, enumerates the several classes of preparations that are not, or only sparsely, represented in our own pharmacopœia and reproduces the formulas for some of the more unusual preparations.—Am. Druggist, N. Y., 1908, v. 53, p. 222.

Kremel, A., discusses the pharmaceutical preparations of the Ph. Japon. III, and calls attention to some of the more characteristic features of that book.—Pharm. Post, Wien, 1908, v. 41, pp. 409–411.

Wyatt, Harold, discusses some of the B. P. C. formulas adopted from other sources.—Pharm. J., Lond., 1908, v. 27, p. 360.

Franklin, J. H., calls attention to a number of pharmaceutical preparations contained in the B. P. C. and presents suggestions for their improvement. He also points out a number of duplications of galenical preparations.—*Ibid.*, 1908, v. 26, pp. 672–675.

Stanislaus, I. V. S., discusses the practicability of utilizing the U. S. P. as a standard for flavoring extracts.—Am. J. Pharm., Phila., 1908, v. 80, p. 225.

Aschoff, Karl, illustrates and describes a circulatory apparatus designed more particularly for the economic and rapid production of tincture of iodine.—Pharm. Ztg., 1908, v. 53, p. 399.

6. DECOMPOSITION.

Wilbert, M. I., points out that drugs and galenical preparations generally deteriorate on keeping and that physicians should demand that the dispenser assume the responsibility for the genuineness and activity of the medicaments he supplies.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 46.

Barnard, H. E., presents a study of the deterioration of some standard pharmaceuticals, including tincture of iodine, limewater, ammonia water, and spirit of camphor.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 308-313, 321-325. (See also Rep. Indiana Bd. Health, 1908, pp. 259-269.)

Niece, Frederic E., presents a contribution in which he reviews some chemical reasons why solutions deteriorate and offers suggestions for their preservation.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 1050-1054.

Dankwortt, P., points out that practically all pharmacopœias require that drugs and preparations be protected in various ways. The Ph. Ndl. and the Ph. Helv., in addition to the usual precautions, also direct that certain medicaments be preserved from moisture.—Apoth. Ztg., Berl., 1908, v. 23, p. 655.

Berger, F., presents a compilation of the directions contained in the Ph. Helv. IV for preserving official articles.—Schweiz. Wchnschr. f. Chem. u. Pharm., 1908, v. 46, pp. 315-320.

Hallberg, C. S. N., asserts that it is in the preservation of sirups that pharmacists are weakest and criticises the shelf bottles frequently used for this class of preparations.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 966.

Rupp, E., points out that the Ph. Helv. IV directs that a number of hygroscopic medicaments are to be kept in containers that will prevent deterioration. A properly constructed container with lime as the absorbing material is recommended.—Apoth. Ztg., Berl., 1908, v. 23, p. 205.

7. INCOMPATIBILITY.

A number of incompatibilities of some of the new remedies are reprinted.—Drug Topics, New York, 1908, v. 23, p. 377.

8. PERCOLATION.

Brandel and Kremers continue their review of percolation and present an exhaustive list of literature on the subject, accompanied by numerous illustrations of apparatus.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 51-55, 74-75, 263-270.

Marpmann, G., describes a new, patented, method for the production of fluid extracts and extracts. The apparatus is claimed to be

particularly designed to prevent possible decomposition due to access of atmospheric air.—*Pharm. Zentralh.*, 1908, v. 49, pp. 247–248.

Schamelhout, A., discusses the directions for percolation embodied in the *Ph. Helv.* IV.—*Bull. Soc. roy. de pharm. Brux.*, 1908, v. 52, p. 48.

Bjerre, Nicolai, discusses the relative value and uses of maceration and percolation.—*Arch. f. Pharm. og Chem.*, Copenhagen, 1908, v. 15, pp. 297–303.

An editorial points out that the *Ph. Svec.* IX directs all of the tinctures that are included in the International Protocol to be made by percolation.—*Am. Druggist*, N. Y., 1908, v. 53, p. 344.

9. EXTRACTION.

Danckwortt, P., points out that the Italian, Swedish, Danish, Dutch, and Swiss Pharmacopœias direct that maceration is to be conducted at from 15°–20° C., digestion at from 35°–45° C., and infusion with boiling water.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 655.

Scoville, Wilbur L., does not think glycerin would prove to be an acceptable menstruum for extracting drugs of the gallo-tannin class.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1006.

A review comments on the suggestion made by Dott, to use aqueous solutions of sugar, in place of hot water, for the extraction of aromatic drugs, in the preparation of sirups.—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 278.

Kulka, Wilhelm (*Biochem. Zeitsch.*, 1908, 13, 134–137) describes an apparatus for extraction by hot ether, somewhat similar to Soxhlet's, but so modified that the vessel containing the substance to be extracted is surrounded by the ether vapor, its contents therefore being nearly at the temperature of boiling ether (about 30°).—*Abstr. J. Chem. Soc.*, Lond., 1908, v. 94, Part II, p. 937.

10. STERILIZATION.

Kühl, Hugo, discusses sterilization and points out the difference between sterilization and preservation.—*Pharm. Zentralh.*, 1908, v. 49, pp. 479–482.

An editorial discusses the application of sterilization in pharmacies and outlines methods for sterilizing various articles and preparations.—*J. d. Pharm. v. Elsass-Lothringen*, 1908, v. 34, pp. 75–84.

Wulff, C., discusses the sterilization of medicinal substances, as directed in several of the recently issued pharmacopœias. Also discusses the production of ampoules and the testing of glass for alkalinity. The discussion on this paper contains a number of additional

points that are of interest.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 152–203.

Welmans, P., calls attention to the article by C. Wulff on sterilization, and asserts that solutions of morphine decompose on heating.—Pharm. Ztg., Berl., 1908, v. 53, p. 320.

An unsigned article discusses the practical application of sterilization in the pharmaceutical laboratory and outlines methods for the sterilization of a variety of preparations.—*Ibid.*, 1908, v. 53, pp. 290–292.

Wilbert, M. I., calls attention to the fact that an increasing number of foreign pharmacopœias are devoting considerable attention to sterilization. So far, methods for sterilization have been introduced into the pharmacopœias of Austria, Belgium, and Switzerland.—Am. J. Pharm., Phila., 1908, v. 80, p. 291.

Dohme and Engelhardt suggest that the U. S. P. should go into the question of sterilization thoroughly. It is now almost the only pharmacopœia that ignores this most important question.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 818.

Danckwortt, P., points out that the Ph. Helv., Ph. Belg., Ph. Austr., and Ph. Ital. require sterilization or give detailed directions for sterilizing official medicaments.—Apoth. Ztg., Berl., 1908, v. 23, p. 655.

Schamelhout, A., discusses the general directions for sterilization embodied in the Ph. Helv. IV.—Bull. Soc. roy. de pharm., Brux., 1908, v. 52, p. 49.

Fleissig, P., in discussing some of the novel features of the Ph. Helv. IV asserts that one of the more desirable advances is the inclusion of an official method for sterilizing medicaments and apparatus.—Therap. Monatsh., Berl., 1908, v. 22, p. 307.

Rupp, E., describes and comments on the provisions for sterilization included in the Ph. Helv. IV.—Apoth. Ztg., Berl., 1908, v. 23, p. 205.

Weigel, G., believes that the Ph. Helv. IV directions for sterilization are deserving of widespread consideration because of their completeness, conciseness, and comprehensiveness.—Pharm. Zentralh., 1908, v. 49, p. 200.

Saporetti, Umberto, discusses the sterilization of solutions used for hypodermic injections.—Boll. chim. farm., Milan, 1908, v. 47, pp. 112–115.

Blanchi, A., discusses the sterilization of hypodermic solutions containing substances decomposed at high temperatures.—*Ibid.*, v. 47, pp. 148–150.

Cook, E. Fullerton, discusses the sterilization of sirups and the limitation of this procedure in connection with sirups of delicate flavor.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 951.

Schneider, Albert, presents a series of articles, on pharmaceutical bacteriology, which clearly indicate the need for systematic sterilization for pharmaceutical preparations likely to deteriorate. He also presents a list of books of interest in connection with the problems involved.—*Merck's Rep.*, N. Y., 1908, v. 17, pp. 141-142, 170-172, 203-205, 239, 242, 293.

Weinstein, Joseph, discusses the possibilities of bacteriology and the field of work for the pharmacist in this connection.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 1019-1022.

Lindley, Walter, reviews the part done by vermin and insects in the distribution of disease germs and points out some of the precautions necessary to prevent the contamination of the various food and medicinal substances and the accompanying spread of the disease.—*Drug Topics*, N. Y., 1908, v. 23, pp. 264-266.

Thivenard, M. (*Bull. d. sc. pharmacol. Mai*, 1908), outlines a method for sterilizing liquids by means of the Chamberland filters employed in households.—*Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 155-157, 169-172.

11. FORMS OF ADMINISTRATION.

Hallberg, C. S. N., thinks it impracticable to make many compounds and complex pharmaceutical preparations extemporaneously. He does believe, however, that the various dosage forms of medicines should be exploited and more widely used than at present.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1042.

Wilbert, M. I., discusses some dosage forms of medicines and calls attention to a number of little-used preparations that might well be developed.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 1061-1065.

AMPOULES.

Mayo, Caswell A., reviews the history and the method of preparing ampoules and makes some suggestions on their use in the dispensing of hypodermic solutions.—*Am. Druggist*, N. Y., 1908, v. 53, p. 379.

Kroeber, Ludwig, discusses the usefulness and the making of ampoules and calls attention to a number of practical points and the need for care in the making of solutions for hypodermic use.—*Apoth. Ztg.*, 1908, v. 23, pp. 458-460.

Pardo, Manfred, outlines a method for preparing, filling, and sterilizing ampoules.—*Pharm. Ztg. Berl.*, 1908, v. 53, p. 469.

v. Spindler, O., describes and figures an apparatus for the simultaneous filling and sterilizing of ampoules.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1908, v. 46, p. 181.

Wulff, C., in a comprehensive paper on the application of sterilization in pharmacy, discusses the production of ampoules and points

out that Jena glass is to be given the preference, as it does not liberate perceptible traces of alkali on heating.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, p. 171.

Beysen, Kurt, presents several practical suggestions bearing on the preparation of sterilized solutions in ampoules.—Pharm. Ztg., Berl., 1908, v. 53, p. 859.

Steinbrück elaborates on the suggestions made by Beysen and expresses the hope that pharmacists will become interested in the making of sterilized ampoules, so as to avoid their production going into the hands of the manufacturer.—*Ibid.*, 1908, v. 53, p. 908.

Wilbert, M. I., suggests that ampoules could readily be made popular in this country, and asserts that Jena glass is preferable for making ampoules, as it has been found to be practically insoluble in water.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1065.

An editorial, commenting on the introduction of ampoules, expresses the opinion that, while it would be practicable for druggists to prepare ampoules or sealed tubes of sterile solutions, it is quite improbable that the majority of those now engaged in the business will be willing to devote the time and attention necessary to prepare them.—Am. Druggist, N. Y., 1908, v. 53, p. 377.

CACHETS.

Wilbert, M. I., outlines the history of cachets or konseals.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1063.

Beringer, George M., cautions against the use of cheap cachets and asserts that they will be found to be like sieves. He also points out the desirability of dispensing powders in the smallest-sized cachet that will hold the dose.—*Ibid.*, 1908, v. 56, p. 1066.

Kuborn-Lassner (Pharm. Ztg., lii, 1908, No. 92, 909) has devised and recommends a method of sealing cachets which avoids the use of moistening. The cachet is filled in the usual way, the upper half is placed over the under, and the sealing is effected by the pressure of a stamp heated by electricity.—*Ibid.*, 1909, v. 57, pp. 65-66.

CAPSULES.

Schamelhout, A., points out that under the general heading capsules the Ph. Helv. IV describes both cachets and capsules. Bull. Soc. roy. de pharm., Brux., 1908, v. 52, p. 51.

Wilbert, M. I., calls attention to the origin of gelatin-coated pills and of gelatin capsules.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1062.

Lake, H. H. (From K. A. Lingner, Dresden, Germany. Eng. Pat. 8638, April 13, 1907), outlines the manufacture of readily soluble gelatin capsules and coatings for pastilles, pills, and the like, which depends on the incorporation with the gelatin of enzymes and fer-

ments to effect the solution of the gelatin in the alimentary tract.—*J. Soc. Chem. Ind., Lond.*, 1908, v. 27, p. 522.

Duncan, A., describes and figures a simple method for filling gelatin capsules by air pressure.—*Pharm. J., Lond.*, 1908, v. 27, p. 486.

Goetting, E. C., recommends the use of mucilage for sealing capsules containing oils. He applies the mucilage by means of a glass rod to the side of the capsule and then distributes it by giving the cap a twisting motion.—*D.-A. Apoth.-Ztg., N. Y.*, 1908-9, v. 29, p. 63.

Lorenzen, F., reports examining a number of filled capsules which varied from 0.5 to 0.64 gm. not one containing exactly 0.55 gm., the amount claimed.—*Apoth. Ztg., Berl.*, 1908, v. 23, p. 899.

COMPRESSED TABLETS.

Woolcock, W. J. Uglow, discusses the art of tablet making: 1, construction of formula; 2, preparation for granulation; 3, granulation; 4, lubrication; and 5, compression.—*Pharm. J., Lond.*, 1908, v. 80, pp. 249-252. (See also Merck's Rep., N. Y., 1908, v. 17, pp. 123-126.)

An unsigned article describes and illustrates an inexpensive machine for making compressed tablets.—*Ztschr. d. allg. österr. Apoth.-Ver., Wien.*, 1908, v. 46, p. 108.

Beringer, George M., presents a note on the disintegration of tablets and points out that, other things being equal, the rapidity of disintegration of a tablet varies directly with the difference in solubility of the ingredients.—*Am. J. Pharm., Phila.*, 1908, v. 80, pp. 387-389.

Schamelhout, A., points out that the Ph. Helv. IV directs that in making compressed tablets of substances insoluble in water the medicament is to be previously mixed with a substance that will promote disintegration.—*Bull. Soc. roy. de pharm., Brux.*, 1908, v. 52, p. 81.

Franklin, J. H., points out that the B. P. C., under the general title "Solvellæ," includes formulas for a line of soluble tablets to which no lubricant of any kind is added, as the tablets must dissolve to form clear solutions. The title "Tabellæ" is used to designate tablets prepared with a chocolate basis, while "Tablettæ" is the designation applied to the ordinary compressed tablets.—*Pharm. J., Lond.*, 1908, v. 80, p. 674.

Quant, Ernest, thinks that the introduction of tabellæ and tablettæ into the B. P. C. may involve difficulties in the future; for many years the word tabellæ has been understood as a synonym to cover the whole class of compressed drugs, and especially any compressed tablet to be taken by mouth, but adopting the Codex for a guide, a tabella must henceforth contain a chocolate basis.—*Ibid.*, 1908, v. 81, p. 514.

HYPODERMIC TABLETS.

Wilbert, M. I., suggests that a general formula for hypodermic tablets be included in one or the other of the National Standards.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1064.

Beringer, George M., does not think it practicable to develop a general formula for hypodermic tablets, and points out that if type forms are put into a legal standard it will tend to cause trouble to pharmacists as well as manufacturers.—*Ibid.*, 1908, v. 56, p. 1065.

TABELLÆ.

Wilbert, M. I., calls attention to the chocolate tablets designated "tabellæ" in the B. P. C. and points out that, while chocolate has not been used to any appreciable extent in this country as a vehicle for active medicaments, it is being widely used abroad.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1064.

EFFERVESCENT POWDERS.

Wilbert, M. I., expresses regret that the National Formulary continues the unpalatable combinations of sugar and salts in place of adopting the more simple and more desirable form of effervescent powders given in the U. S. P. VIII.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1063.

Quant, Ernest, suggests that effervescent granular preparations might with advantage be grouped under one heading so as to facilitate reference on the part of the prescriber.—Pharm. J., Lond., 1908, v. 27, p. 514.

PASTILLES.

Wilbert, M. I., points out that pastilles, a form of troche or lozenge, are practically unknown in this country, while in Great Britain and in Europe generally they are quite popular; they constitute an elegant and altogether efficient method for administering many drugs intended for local action in the mouth and throat.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1064.

12. METHODS OF ADMINISTRATION.

Clague, T. Maltby, contributes some notes on electrolytic administration of drugs.—Pharm. J., Lond., 1908, v. 81, p. 346.

Jones, H. Lewis, presents a brief paper on the treatment of skin diseases by electrolytic medication (Ionic methods).—Brit. M. J., Lond., 1908, v. 2, p. 1179.

An unsigned article describes and illustrates an apparatus to facilitate the taking of medicines.—Pharm. Zentralh., 1908, v. 49, p. 645.

Maurel, E., reports observations on the influence of the method of administration on the toxicity of ouabaine.—*Compt. rend. Soc. de biol. Par.*, 1908, v. 65, p. 15.

Eliot, Gustavus, concludes an article on the best things in therapeutics by the following classification: (1) Mercury in syphilis; (2) the salicylates in rheumatism; (3) quinine in malarial affections; (4) antitoxin serum in diphtheria; (5) aconite in the fever of acute diseases; (6) digitalis in chronic heart diseases; (7) alcohol in cardiac weakness of acute disease; (8) ergot in uterine and pulmonary hæmorrhage; (9) creosote in diseases of the respiratory organs; (10) the bromides in nervousness.—*Boston M. & S. J.*, 1908, v. 158, p. 253.

Fearn, John, asserts that there is no universal vehicle for medicine, and yet with many writers they seem to use little but water. He recommends varying the vehicle according to the case in hand. Care and thought on these lines make the medicine often pleasanter and not less effective.—*Eclectic M. J.*, Cincin., 1908, v. 68, pp. 353-354.



II. INTERNATIONAL STANDARDS.

1. INTERNATIONAL CONFERENCE FOR THE UNIFICATION OF PHARMACOPŒIAL FORMULÆ FOR POTENT MEDICAMENTS (BRUSSELS CONFERENCE).

1. ADOPTION OF BRUSSELS CONFERENCE PROTOCOL.

Fleissig, P., in discussing the importance of international standards for potent medicaments, asserts that the desirability of uniformity is so evident that no comments are necessary other than to point out that lack of uniformity presents untold opportunity for accidents of all kinds.—*Therap. Monatsh.*, Berl., 1908, v. 22, p. 307.

An unsigned note calls attention to the establishment of the international secretariat for the unification of pharmacopœias, proposed by Bruylants at the Brussels conference of 1902, and congratulates Belgium on thus creating a bond between the several governments in the interest of public health.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 380.

Danckwortt, P., believes that the publication of the several pharmacopœias in the vernacular is to be deplored, in that it does not facilitate ready comparison of the different books. He points out the difficulties that were encountered with the *Ph. Japon. III* as an illustration of the desirability of having all pharmacopœias published in Latin, or possibly Esperanto.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 655. (See also article by Wulff, *Ber. d. pharm. Gesellsch.*, Berl., 1908, v. 18, p. 310.)

A correspondent, in commenting on the *Ph. Fr. V*, asserts that no one has done so much to make international uniformity of the formulæ for potent medicaments a reality as Bourquelot, whose treatment of the subject at the Paris congress was followed by the Brussels Conference in 1902, and the consequent adoption of a long list of formulæ of potent drugs which will, little by little, find their way into the national pharmacopœias of the world.—*Am. Druggist*, N. Y., 1908, v. 53, p. 173.

A book review asserts that nearly all of the recommendations of the Brussels Conference have been accepted by the revisers of the new French Codex.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 381.

2. COMPARATIVE TABLE SHOWING THE DEGREE OF COMPLIANCE IN THE SEVERAL PHARMACOPŒIAS PUBLISHED IN 1908 WITH THE PROVISIONS OF THE BRUSSELS CONFERENCE.

	Protocol, International.	Ph. Fr. V.	Ph. Svec. IX.	Ph. Serb. II.
Aconitum napellus (L.):				
Title.....	Aconiti tuber seu Tuber Aconiti.....	Aconiti Napol. <i>Aconitum Napellus</i> L.....	.....	Not official.
Requirement.....	Tuber of the current year.....	General and microscopical characteristics; time of collection, method of preserving.	.....	.....
Tinctura Aconiti:				
Title.....	Aconiti tinctura seu Tinctura Aconiti.....	Tincture d'Aconiti (Racine). Tinctura aconiti.	.....	Not official.
Strength.....	10 per cent.	Same as P. I. ....	.....	.....
Menstruum.....	Alcohol (70 per cent).....	Same as P. I. ....	.....	.....
Requirement.....	0.05 per cent of total alkaloids.....	General characteristics; 0.05 total alkaloids, assay.	.....	.....
Atropa belladonna (L.):				
Title.....	Belladonnae folium seu Folium Belladonnae.....	Belladonnae. <i>Atropa Belladonna</i> L.....	Folium Belladonnae.....	Belladonna.
Requirement.....	Use only the leaf dried.....	The leaves, general characteristics.....	General and microscopical characteristics, chemical test.	The leaves, general and microscopical characteristics, chemical test, extract content.
Tinctura Belladonnae:				
Title.....	Belladonnae tinctura seu Tinctura Belladonnae.....	Tincture de Belladonne. Tinctura belladonnae.	.....	Tinctura Belladonnae Foliorum.
Strength.....	10 per cent.	Same as P. I. ....	.....	Same as P. I.
Menstruum.....	Alcohol (70 per cent).....	Same as P. I. ....	.....	Same as P. I.
Requirement.....	.....	General characteristics.....	.....	0.03 per cent alkaloids, specific gravity.
Extractum Belladonnae:				
Title.....	Belladonnae extractum seu Extractum Belladonnae.....	Extrait de Belladonne. Extractum belladonnae.	Extractum Belladonnae.....	Extractum Belladonnae.

Requirement.....	Solid extract (containing about 10 per cent of water) made with alcohol (70 per cent).	Same as P. I., general characteristics, assay.	1.3 per cent alkaloids; assay process, chemical tests.	2.0 per cent alkaloids.
<i>Colchicum autumnale</i> (L.): Title..... Requirement.....	Colchicel semen seu Semen Colchicel. Use only the seed.....	Colchique. <i>Colchicum autumnale</i> L. The seeds, general characteristics.....	Semen Colchicel..... General and microscopical characteristics.	Colchicum. The seed only, general and microscopical characteristics, extract content and limit for ash.
<i>Tinctura Colchicel</i> : Title..... Strength..... Menstruum..... Requirement..... <i>Digitalis purpurea</i> (L.): Title..... Requirement.....	Colchicel tinctura seu Tinctura Colchicel. 10 per cent..... Alcohol (70 per cent)..... Digitalis folium seu Folium Digitalis. The leaf of the 2nd year.....	Teinture de Colchique. Tinctura colchicel. Same as P. I..... Same as P. I..... General characteristics; chemical tests. Digitale. <i>Digitalis purpurea</i> L..... The leaves, general characteristics, directions for keeping, time of collection.	Tinctura Colchicel..... Same as P. I. Same as P. I. Specific gravity..... Folium Digitalis..... General and microscopical characteristics, chemical test.	Tinctura Colchicel. Same as P. I. Same as P. I. Specific gravity, chemical tests. Digitalis. The leaves, general description, extract content, limit of ash and chemical test for alkaloids.
<i>Tinctura Digitalis</i> : Title..... Strength..... Menstruum..... Requirement.....	Digitalis tinctura seu Tinctura Digitalis. 10 per cent..... Alcohol (70 per cent).....	Teinture de Digitale. Tinctura digitalis. Same as P. I..... Same as P. I..... General characteristics; chemical tests.	Tinctura Digitalis..... Same as P. I. Same as P. I. Specific gravity.....	Tinctura Digitalis. Same as P. I. Same as P. I. Specific gravity, chemical test and extract content.
<i>Uragoga Ipecacuanha</i> (Baill): Title..... Requirement.....	Ipecacuanha radix seu Radix Ipecacuanhae. Only the root bark to be used. The powder to have an alkaloidal strength of 2 per cent.	Ipecacuanha Annele. <i>Uragoga Ipecacuanha</i> H. The root, general and microscopical characteristics, assay.	Radix Ipecacuanhae..... Origin, general and microscopical characteristics, assay.	Ipecacuanha. Rio Ipecac only, general and microscopical characteristics, extract content, limit for ash, 2 per cent alkaloids.

2. COMPARATIVE TABLE SHOWING THE DEGREE OF COMPLIANCE IN THE SEVERAL PHARMACOPÉIAS PUBLISHED IN 1908 WITH THE PROVISIONS OF THE BRUSSELS CONFERENCE—(continued).

	Protocol, International.	Ph. Fr. V.	Ph. Svec. IX.	Ph. Serb. II.
<i>Tinctura Ipecacuanhæ:</i>				
Title.....	<i>Ipecacuanhæ tinctura</i> seu <i>Tinctura Ipecacuanhæ</i> .	<i>Teinture d'Ipecacuanha</i> <i>Tinctura Ipecacuanhæ</i> .	<i>Tinctura Ipecacuanhæ</i>	<i>Tinctura Ipecacuanhæ</i> .
Strength.....	10 per cent.....	Same as P. I.....	Same as P. I.....	Same as P. I.
Menstruum.....	Alcohol (70 per cent).....	Same as P. I.....	Same as P. I.....	Same as P. I.
Requirement.....	.....	General characteristics, chemical tests.	Specific gravity.....	Specific gravity, 0.2 per cent of alkaloids.
<i>Syrupus Ipecacuanhæ:</i>				
Title.....	<i>Ipecacuanhæ sirupus</i> seu <i>Sirupus Ipecacuanhæ</i> .	<i>Sirup d'Ipecacuanha</i> . <i>Syrupus Ipecacuanhæ gallicus</i> .	Not official.....	<i>Syrupus Ipecacuanhæ</i> .
Strength.....	10 per cent of the tincture.....	1 per cent extract of <i>Ipecac</i>.....	.....	Same as P. I.
<i>Hyoscyamus niger</i> (L):				
Title.....	<i>Hyoscyami folium</i> seu <i>Folium Hyoscyami</i> .	<i>Jusquamine Noire</i> . <i>Hyoscyamus niger</i> L.	<i>Folium Hyoscyami</i>	<i>Hyoscyamus</i> .
Requirement.....	Use only the leaf.....	The leaves, general characteristics.....	Origin, general and microscopical characteristics; chemical tests.	The leaves, general and microscopical description, extract content.
<i>Tinctura Hyoscyami:</i>				
Title.....	<i>Hyoscyami tinctura</i> seu <i>Tinctura Hyoscyami</i> .	<i>Teinture de Jusquamine</i> . <i>Tinctura hyoscyami</i> .	Not official.....	Not official.
Strength.....	10 per cent.....	Same as P. I.....	.....	.....
Menstruum.....	Alcohol (70 per cent).....	Same as P. I.....	.....	.....
<i>Extractum Hyoscyami:</i>				
Title.....	<i>Hyoscyami extractum</i> seu <i>Extractum Hyoscyami</i> .	<i>Extrait de Jusquamine</i> . <i>Extractum hyoscyami</i> .	<i>Extractum Hyoscyami</i>	<i>Extractum Hyoscyam</i> .
Menstruum.....	Alcohol (70 per cent).....	Same as P. I.....	.....	Same as P. I.
Requirement.....	Solid extract (containing about 10 per cent of water).	General characteristics; assay.....	Test for alkaloids.....	0.30 per cent alkaloids.

Strychnos nux vomica (L): Title.....	Strychni semen seu Semen Strychni seu Nux vomica. 2.5 per cent total alkaloids.....	Nolx Vomique. Strychnos Nux vomica L. General characteristics; assay, not less than 2 nor more than 3 per cent total alkaloids.	Semen Nucis vomicae	Strychnos. General description, extract content, limit for ash, 2.5 per cent total alkaloids.
Tinctura Nucis vomicae: Title.....	Strychni tinctura seu Tinctura Strychni; Nucis vomicae tinctura seu Tinctura Nucis vomicae. 10 per cent..... Alcohol (70 per cent)..... 0.25 per cent total alkaloids.....	Teinture de Nolx Vomique. Tinctura nucis vomicae. Extract of nux vomica, 1.562 per cent.. Same as P. I..... Same as P. I..... 0.25 per cent total alkaloids; chemical test.	Tinctura Nucis vomicae	Tinctura Strychni. Tinctura Nucis vomicae. Same as P. I. Same as P. I. Specific gravity, chemical test, 0.25 per cent total alkaloids.
Extractum Nucis vomicae: Title.....	Strychni extractum seu Extractum Strychni; Nucis vomicae extractum seu Extractum Nucis vomicae. Alcohol (70 per cent)..... 16 per cent total alkaloids.....	Extrait de Nolx Vomique. Extractum nucis vomicae. Same as P. I..... General characteristics; 16 per cent total alkaloids, reaction.	Extractum Nucis vomicae	Extractum Strychni. Extractum Nucis vomicae. Same as P. I. Chemical test, 16 per cent total alkaloids.
Opium: Title..... Requirement.....	Opil pulvis seu Pulvis Opil. Powder to be dried at 60° C.; morphine 10 per cent.	Opium de Smyrne. Opium thebaicum. General and microscopical characteristics; assay.	Opium	Opium. Origin, general description, 10 per cent of morphine.
Extractum Opil: Title..... Requirement.....	Opil extractum seu Extractum Opil. Morphine, 20 per cent.....	Extrait d'Opium. Extractum opil. General characteristics; 20 per cent morphine, chemical test, assay.	Extractum Opil	Extractum Opil. 20 per cent morphine, chemical test.
Tinctura Opil: Title..... Strength.....	Opil tinctura seu Tinctura Opil. 10 per cent.....	Teinture d'Opium. Tinctura opil. 5 per cent extract of opium.....	Tinctura Opil. Same as P. I.....	Tinctura Opil Simplex. Same as P. I.

2. COMPARATIVE TABLE SHOWING THE DEGREE OF COMPLIANCE IN THE SEVERAL PHARMACOPŒIAS PUBLISHED IN 1908 WITH THE PROVISIONS OF THE BRUSSELS CONFERENCE—(continued).

	Protocol, International.	Ph. Fr. V.	Ph. Svec. IX.	Ph. Serb. II.
Tinctura Opil—Continued.				
Menstruum.....	Alcohol (70 per cent.).....	Same as P. I.....	Dilute alcohol and cinnamon water	Same as P. I.
Requirement.....	Morphine, 1 per cent.....	General characteristics; reaction.....	1 per cent morphine.....	Specific gravity, chemical test, 1 per cent morphine.
Tinctura Opil crocata:				
Title.....	Opil tinctura crocata seu Tinctura Opil crocata seu Laudanum Sydenhami.	Not official.....	Tinctura Opil crocata.....	Tinctura Opil Crocata.
Strength.....	10 per cent opium.....			
Menstruum.....			Same as P. I.....	Same as P. I.
Requirement.....	Morphine, 1 per cent.....		Dilute alcohol.....	Alcohol and cinnamon water.
			1 per cent morphine.....	Specific gravity, chemical test, 1 per cent morphine.
Pulvis Ipecacuanhæ et opil:				
Title.....	Opil et Ipecacuanhæ pulvis compositus seu Pulvis Doveri.	Poudre d'Ipecacuanha Oplacée. Pulvis opil et Ipecacuanhæ compositus.	Pulvis Ipecacuanhæ oplatus.....	Pulvis Ipecacuanhæ Oplatus. Pulvis Doveri.
Requirement.....	To contain 10 per cent of powdered opium.	1 Gm. = 10 cg. opium and 10 cg. powdered Ipecac.	Same as P. I.....	Same as P. I.
Tinctura Opil Camphorata:				
Title.....	Opil tinctura benzoea seu Tinctura Opil benzoea.	Elixir Parégorique. Tinctura opil benzoea.	Tinctura Opil benzoea.....	Not official
Requirement.....	Morphine 0.05 per cent.....	10 Gms. correspond to 5 cg. powdered opium, and contain 5 mgs. morphine. General characteristics.	5 per cent of tincture of opium.....	
Tinctura Strophanthi:				
Title.....	Strophanthi tinctura seu Tinctura Strophanthi.	Tincture de Strophanthus. Tinctura strophanthi.	Tinctura Strophanthi.....	Tinctura Strophanthi.
Strength.....	10 per cent.....	Same as P. I.....	Same as P. I.....	Same as P. I.
Menstruum.....	Alcohol (70 per cent).....	Same as P. I.....	Same as P. I.....	Same as P. I.
Requirement.....	Seeds not to be freed from fat.....	General characteristics.....	Specific gravity.....	Specific gravity, chemical test.

Sclerotium clavicipitis purpure (Tul) seu Clavicipiti purpure (Tul) Sclerotium: Title.....	Secale cornutum seu Ergotum Secale.	Ergot de Seigle. Secale cornutum....	Secale cornutum.....	Secale cornutum.
Requirement.....	Not to be more than one year old and to be kept whole.	General characteristics: directions for keeping.	Origin, general and microscopical characteristics.	Origin, general description, extract content, limit for ash.
Extractum Ergotæ: Title.....	Secalis cornuti extractum seu Extractum Secalis cornuti; Ergoti extractum seu Extractum Ergoti.	Extrait d'Ergot de Seigle. Extractum ergoti.	Extractum Secalis cornuti.....	Extractum Secalis cornuti.
Menstruum & Requirement.	Prepare a watery extract and make up with alcohol (60 per cent).	Extract with water, treat with alcohol 95°; general characteristics, chemical tests.	Extracted with distilled water, treated with alcohol.	Extracted with distilled water, treated with alcohol.
Fluïdextractum Ergotæ: Title.....	Secalis cornuti extractum fluidum seu Extractum fluidum Secalis cornuti; Ergoti extractum fluidum seu Extractum fluidum Ergoti.	Extrait d'Ergot de Seigle (fluide). Extractum ergoti fluidum.	Extractum fluidum Secalis cornuti.	Extractum Secalis Cornuti Fluidum.
Strength.....	100 per cent.	Same as P. I.	Same as P. I.	Same as P. I.
Menstruum.....		Extract with water, treat with alcohol 95°.	Alcohol 1, water 4.....	Alcohol 20, water 20, glycerin 5.
Requirement.....		General characteristics; chemical tests.	Specific gravity.....	Specific gravity, extract content, chemical test.
Acidum Hydrocyanicum Dilutum: Title.....	Acidum hydrocyanicum dilutum.	Cyanhydrique (Acide dissous). Acidum cyanhydricum solutum.	Not official.....	Not official.
Requirement.....	Strength 2 per cent.	Same as P. I., general characteristics, assay.		
Aqua Amygdalæ: Title.....	Amygdalæ amara aqua seu Aqua Amygdalæ amara.	Not official.....	Aqua amygdalæ amara.....	Aqua Amygdalarum Amarum.

2. COMPARATIVE TABLE SHOWING THE DEGREE OF COMPLIANCE IN THE SEVERAL PHARMACOPŒIAS PUBLISHED IN 1908 WITH THE PROVISIONS OF THE BRUSSELS CONFERENCE—(continued).

	Protocol, International.	Ph. Fr. V.	Ph. Svec. IX.	Ph. Serb. II.
Aqua Amygdala—Continued. Requirement.....	Strength 0.10 per cent.....	.....	0.1 per cent HCN assay method.....	Assay, 0.1 per cent of hydrocyanic acid.
Aqua Laurocerasi: Title.....	Lauroceras aqua seu Aqua Laurocerasi.	Eau Distillée de Laurocerise. Hydro-lalum Laurocerasi.	.....	Not official.
Requirement.....	Strength 0.10 per cent.....	Same as P. I., assay.	.....	.....
Aqua Phenolata: Title.....	Phenoll solutio seu Aqua Phenolata.	Soluté de Phénol. Solutio phenoll.....	Solutio phenoll.....	Aqua Carbolisata.
Requirement.....	Strength 2 per cent.....	Same as P. I.	Same as P. I.	Same as P. I.
Sodii Arsenas: Title.....	Arsenas sodii seu Sodii arsenas; Arsenicum natrium seu Natrium arsenicum.	Sodium (Arsenate de) Officinal. Natrium arsenicum.	Not official.....	Not official.
Requirement.....	The crystallized salt containing 36.85 per cent of arsenic acid.	General characteristics, assay, preservation; 36.86 arsenious anhydride.	.....	.....
Liquor Potassii Arsenitis: Title.....	Arsenicalls liquor Fowleri seu Liquor Arsenicalls Fowleri seu Kali Arsenicosi liquor.	Soluté d'Arsénite de Potasse. Solutio kali arsenicosi.	Liquor arsenitis kallel.....	Not official.
Requirement.....	Strength in arsenious acid 1 per cent.	Same as P. I., general characteristics, assay.	Same as P. I., assay.....	.....
Syrupus Ferri Iodidi: Title.....	Ferri iodidi sirupus seu Syrupus iodeti ferrosi seu Syrupus ferri iodati.	Sirop d'Iodure de Fer. Syrupus ferri iodati gallicus.	Syrupus iodeti ferrosi.....	Syrupus Ferri Iodati.
Requirement.....	Strength in anhydrous ferrous iodide 5 per cent.	General characteristics; assay, keeping, 20 Gms. —10 eggs. ferrous iodide.	Same as P. I., assay.....	Same as P. I.

Tinctura Cantharidis:					
Title.....	Cantharidis tinctura seu Tinctura Cantharidis.	Teinture de Cantharide. Tinctura cantharidis.	Tinctura Cantharidis.....	Tinctura Cantharidum.	
Strength.....	10 per cent.		Same as P. I.....	Same as P. I.	
Menstruum.....	Alcohol (70 per cent).		Same as P. I.....	Same as P. I.	
Requirement.....			General characteristics.....	Specific gravity, extract content.	
Tinctura Iodi:					
Title.....	Iodi tinctura seu Tinctura Iod. I.	Teinture d'Iode. Tinctura iodi.	Not official.....	Tinctura Iodii.	
Strength.....	10 per cent.		Same as P. I.....	Same as P. I.	
Menstruum.....	Alcohol (95 per cent).		Same as P. I.....	Same as P. I.	
Requirement.....			General characteristics; assay.....	Specific gravity, assay process.	
Tinctura Lobellae:					
Title.....	Lobellae tinctura seu Tinctura Lobellae.	Teinture de Lobélie. Tinctura lobellae.	Not official.....	Tinctura Lobellae.	
Strength.....	10 per cent.		Same as P. I.....	Same as P. I.	
Menstruum.....	Alcohol (70 per cent).		Same as P. I.....	Same as P. I.	
Requirement.....			General characteristics.....	Specific gravity, extract content.	
Cocaine Hydrochloridum:					
Title.....	Cocaine Hydrochloricum.....	Cocaine (Chlorhydrate de). Cocainum chlorhydricum.	Not official.....	Cocainum Hydrochloricum.	
Requirement.....	The anhydrous salt.....	General characteristics, melting point 186°, assay.		Same as P. I.	
Unguentum Hydrargyri:					
Title.....	Hydrargyri unguentum seu Unguentum Hydrargyri.	Pommade Mercurelle of Parties Egales. Pomatum hydrargyricum gallicum.	Unguentum hydrargyri.....	Unguentum Hydrargyri.	
Strength.....	30 per cent.	50 per cent.	Same as P. I.....	Same as P. I.	
Requirement.....		Assay.....	Assay method.....	Assay.	
Vinum Antimonii:					
Title.....	Antimoniale vinum seu Vinum Antimoniale; Stibiatum vinum seu Vinum Stibiatum.	Not official.....	Vinum stibiatum.....	Not official.	
Strength.....	In tartar emetic 0.40 per cent.		Same as P. I.....		
Requirement.....					

3. DROPS AND DROPPERS.

An editorial discusses the use of drops as dose measures and presents a comparative table showing the number of drops of various medicaments that are required to weigh 1 gram.—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 38.

Eschbaum, Friedrich, discusses the proposed international standard drop counter and points out that the availability and use of such a device is rather limited unless the pharmacopœia also include a comparative table giving the weight of liquids of varying composition.—*Ber. d. pharm. Gesellsch.*, Berl., 1908, v. 18, pp. 297–308.

Bührer, C., discusses the standard drop of the Ph. Helv. IV and enumerates some of the many drop counters that conform to the general requirement.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, p. 114.

“C. C.” [C. Crinon?] calls attention to the adoption by the Ph. Fr. V of a normal drop counter and the precautions to be exercised in its use.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 489.

An abstract discusses the use of drops as dose measures, the theory of drop formation, and gives a table of the weight of drops of some of the more important liquid medicaments. *D.-A. Apoth.-Ztg.*, N. Y., 1908–9, v. 29, p. 92.

Lohnstein, Theodor, discusses the use of drops as dose measures and suggests that in measuring drop doses it is desirable to use official drop tables as a basis for comparison.—*Therap. Monatsh.*, Berl., 1908, v. 22, pp. 407–417.

Livingston, Morgan, and Stevenson, and Livingston, Morgan, and Higgins discuss the weight of the falling drop and the possible application of this factor to the estimation of the molecular weight and critical temperature of liquids.—*Ztschr. f. physik. Chem.*, 1908, v. 64, pp. 151–186.

Lohnstein, Theodor, criticizes the communication by Livingston and others from a theoretic point of view.—*Ibid.*, 1908, v. 64, pp. 686–692. (See also *J. Am. Chem. Soc.*, 1908, v. 30, pp. 360–378, and pp. 1055–1068.)

2. FOREIGN PHARMACOPŒIAS.

1. FRENCH.

The official title of the French Pharmacopœia is: *Codex Medicamentarius Gallicus*, *Pharmacopée Française*. The book was published in 1908 and has the imprint: “Paris, Masson et Cie. Editeurs, Libraires de L'Académie de Médecine; 120, Boulevard Saint-Germain.”

The volume is a rather large octavo and includes XXII and 999 pages. Eight hundred pages are devoted to the official monographs, which include a total of 1,122 titles, 48 general headings, 271 drugs, 293 chemical substances, and 510 galenical preparations.

The "Annexes," covering 154 pages, are devoted to tables including an enumeration of the substances that are to be kept under lock and key and those that are to be kept apart from other medicaments.

The protocol of the Brussels Conference for the unification of the formulæ of potent medicaments is reprinted, and the several provisions have been generally adopted in the body of the book, special attention being called to the articles not in conformity with the international requirements.

The list of atomic weights is based on $O=16$, but the figures are given in round numbers only, the only decimals used being 0.5.

The table of approximate measures gives the following equivalents:

A tea (or coffee) spoon	= 5 cc. or about 5 gms. of water.
A dessert spoon	= 10 cc. or about 10 gms. of water.
A soup spoon (tablespoon)	= 15 cc. or about 15 gms. of water.
	15 cc. or about 20 gms. of syrup.
A tumbler	=150 cc. or about 150 gms. of water.

The normal drop counter adopted by the Brussels Conference has been adopted as the standard, and there are included tables giving the weight of 20 drops and of 100 drops of official liquids; also the number of drops required to weigh 1 gram.

Considerable space is devoted to the reagents required in connection with official tests, and the method of making and applying volumetric solutions is discussed at length.

The enumeration of articles dismissed from or added to the French Codex requires no less than 13 pages. The deletions include upward of 790 titles, while the additions number about 150, including serums and vaccines and a number of new remedies.

A rather novel feature for a book of this kind is found in the reprint of laws and regulations affecting the practice of pharmacy in France. This feature of the Ph. Fr. V covers 51 pages and suffices to demonstrate that the practice of pharmacy in France is regulated in ways that would be considered irksome in this country.

The index is rather comprehensive and covers 45 double-column pages.

While in its outward aspects the "Codex Medicamentarius" of 1908 is practically identical in form and volume with its immediate predecessor, there has been a marked change in the arrangement of the contained material. With the exception of biological products and medicaments intended solely for veterinary use, all of the contained materials are arranged alphabetically according to the French title.

Chemical substances have their physical and chemical properties described at length and with each product the methods employed for verifying the identity and purity are given in detail. The alterations which substances undergo are also enumerated and directions given for their conservation and the avoidance of incompatibilities.

In connection with many of the official chemical substances the structural as well as the rational formula of the product is given with the title.

For crude drugs the characters visible to the naked eye, and with an ordinary hand lens, are given at length, while microscopic characteristics and assay processes are supplied in connection with many of the more important drugs.

The directions for making pharmaceutical preparations are usually given in detail and are generally followed by a description of the finished preparation.

Bourquelot, Em., discusses the Codex of 1908, the origin of the revision commission, its method of working, and the introduction of the decision of the Brussels Conference in connection with the strength of preparations of potent medicaments.—*J. de pharm. et de chim.*, Par., 1908, v. 28, pp. 262–271.

“C. C.” [C. Crinon?], introducing a comprehensive review of the new Codex, notes that this revision has consumed 11 years, during which time five members of the commission died.—*Répert. d. pharm.* Par., 1908, v. 20, p. 435.

An editorial, in commenting on the *Ph. Fr. V*, asserts that the first rough impression a person gets of the book is that mechanically it is a very inferior production, the binding, paper, and presswork being anything but creditable to the French Government, under the imprimatur of which the book is issued.—*Am. Druggist*, N. Y., 1908, v. 53, p. 221.

A correspondent, in commenting on the new Codex, describes the general arrangement as follows:

French name.

Synonyms.

Latin name.

Composition (metrical amounts fully printed thus): “Distilled water, a hundred and fifty grams (150).”

Preparation.

Distinctive characteristics.

Tests (in smaller type).

Hints as to keeping.

Incompatibilities.

Use.

—*Am. Druggist*, N. Y., 1908, v. 53, p. 172.

Wilbert, M. I., points out that the new French Codex is in many respects quite an improvement on its predecessor. In the present

edition the monographs appear in alphabetical order in place of being arranged in classes as formerly. The monographs are also more comprehensive and, despite a marked reduction in the number of official articles, the number of pages has been increased from 728 to 999.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 590.

An unsigned article discusses the new edition of the French Pharmacopœia and comments facetiously on the number of additions and dismissals.—*Critic and Guide, N. Y.*, 1908, v. 11, pp. 333-334.

Bührer, C., reviews the Ph. Fr. V and calls attention to some of the innovations contained therein.—*Schweiz. Wchnschr. f. Chem. u. Pharm., Zürich*, 1908, v. 46, pp. 635-638.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 143) present a discussion on the Ph. Fr. V, calling especial attention to the requirements for the various essential oils described therein.

An unsigned critique notes that in one particular the French Codex differs from other pharmacopœias in that it gives definitions and descriptions of the various groups of pharmaceutical preparations. In this particular the Codex fulfills the part of an official textbook of pharmacy.—*Chem. & Drug., Lond.*, 1908, v. 73, p. 548.

An editorial reviews the history of the Codex Medicamentarius Gallicus and points out that while the first pharmacopœia of the London College of Physicians was issued in 1618, it was not till 1639 that the first French pharmacopœia appeared.—*Ibid.*, 1908, v. 73, p. 420.

A review of the new Ph. Fr. calls attention to some of the characteristic features of that book.—*Pharm. Ztg., Berl.*, 1908, v. 53, pp. 729-730.

Additional comments in foreign journals are by: "H. J. M.," *Arch. f. Pharm. og. Chem., Copenhagen*, 1908, v. 15, pp. 366-367; L. Barthe, *Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 253-254; A. Schamelhout, *Bull. Soc. roy. de pharm., Brux.*, 1908, v. 52, pp. 289-292, and A. Astruc, *Bull. pharm. du sud-est, Montpel.*, 1908, v. 13, pp. 497-522, 564-568.

2. SWEDISH.

The "Svenska Farmakopén, 1908 (Pharmacopœa Svecica, Ed. IX)" was published in Stockholm, 1908, and consists of a rather small octavo volume of XVI+426 pages.

Following a short preface, giving an account of the permanent pharmacopœia committee and its work in connection with the present revision, there is a short article giving a description of the signs used in connection with the official articles and definitions for the several abbreviations that occur throughout the book.

This article is followed by an enumeration of the 25 general directions which include such widely varying subjects as the collection

and drying of roots, barks, leaves, and fruits, the determination of the melting point and boiling point of chemical substances, the production of normal test solutions, the determination of specific gravity of official substances, the determination of the iodine number, the requirements for an official dropper, and the requirements for sieves to regulate the fineness of powders.

The descriptions of official articles occupy 359 pages and include a total of 583 monographs, 19 general headings, 144 crude drugs, 179 chemical substances, and 241 galenical preparations.

The nomenclature, particularly of chemical substances, varies considerably from that used either in this country or on the continent of Europe generally, but, in accordance with an agreement adopted in 1865, is similar to that used in the Danish Pharmacopœia published in 1907.

The descriptions of vegetable drugs are unusually complete, and, in addition to the usual description of the part of the plant used, also include an enumeration of the microscopical characteristics and, in many instances at least, chemical tests and assay processes for determining the nature, quantity, and identity of the constituents.

For chemical substances the requirements and tests are usually given in rather complete form, and the descriptions include references to appearance, taste, solubility, and melting point when available.

The directions for making pharmaceutical preparations are usually extremely simple and are generally included in the general or class headings.

For many of the liquid preparations concise descriptions of their appearance or properties are included. The alkaloidal requirements are not accompanied by assay processes, the inference being that the process given under the description for the drug is to be used for the preparations of that drug.

The list of reagents, needed for applying the tests directed in the pharmacopœia, is arranged in the form of a table so as to facilitate ready reference.

The international protocol is reprinted entire and the provisions of the Brussels Conference are generally adopted in the book itself.

A table of maximum doses of active medicaments is included, also a table of maximum doses for domestic animals, including horses, cattle, sheep, swine, and dogs.

Tables of medicaments that are specially designated in the text as being poisonous, or which are to be preserved with special caution or dispensed under certain restrictions, are also included, with tables of the articles dismissed from or added to the pharmacopœia.

A table of atomic weights based on O=16 is included, as are several tables showing the variation in the specific gravity of official

substances, due to differences in concentration or differences in temperature.

The book concludes with an index covering 24 double-column pages, which includes the rather novel feature that all of the official preparations in which any given substance is directed are enumerated, in smaller type, immediately following the official title.

An editorial points out that the Ph. Svec. IX has followed rather closely the provisions of the Brussels protocol, but that the matter of Latin nomenclature of the various pharmacopœias is surely in need of attention and some attempt at uniformity should be made.—*Am. Druggist*, N. Y., 1908, v. 53, p. 344.

A news note announces the publication of the Ph. Svec. IX and calls attention to some of the changes involved.—*Pharm. Post*, Wien, 1908, v. 41, p. 945.

Jolin, Severin, calls attention to some of the changes introduced in the new Swedish Pharmacopœia and the compliance with the provisions of the Brussels protocol.—*Svensk. farm. Tidskr.*, 1908, v. 12, pp. 365-370, 385-392.

A brief editorial review of the new Swedish Pharmacopœia notes that of the recent therapeutic agents introduced, some are under their scientific names and others under their trade-marked names. In the former case no allusion to the trade name is given. These names show that besides existing differences in pharmacopœial preparations, we have also to reckon with a national Latin nomenclature, as is further proved by a number of examples of the chemical adaptations of the classic tongue in the land of Berzelius.—*Chem. & Drug*, Lond., 1908, v. 73, p. 828.

3. SERBIAN.

Pharmakopœa Serbica, editio secunda, was published in 1908. The book is printed in the vernacular and contains a total of XVI and 329 pages; 263 pages are devoted to the descriptions of the official articles, which number 474, and include 13 drugs of animal origin, 128 drugs of vegetable origin, 141 chemicals, 174 galenical preparations, and 18 general headings; 11 pages are devoted to the enumeration of reagents and apparatus necessary to carry out the required tests. The book also includes tables of potent medicaments, maximum single and daily doses, atomic weights and molecular weights of official substances. There is also a comprehensive list of antidotes, with general directions for their use, a table of Latin synonyms not included with the official titles, and an index of the Latin titles.

4. AUSTRIAN.

Frey, Otto, reviews some of the criticisms made in connection with the Ph. Austr. VIII and points out the desirability of having greater uniformity in connection with pharmacopœial tests.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, pp. 605 ff.

5. BELGIAN.

Schamelhout, A., continues his critical and comparative study of the Ph. Belg. III.—*Bull. Soc. roy. de pharm.*, Brux., 1908, v. 52, pp. 14 ff.

This study subsequently appeared as a separate of 303 pages, octavo, from the press of J. Leherste-Courtin, Renaix.

6. BRITISH.

Tirard, Nestor, before the Royal Society of Medicine, discussed the British Pharmacopœia: Its scope and object. (For abstract and discussion see *Pharm. J.*, Lond., 1908, v. 27, p. 469.)

The president of the General Medical Council announces that the Pharmacopœia committee was now engaged in the analysis of a large body of suggestions for the improvement of the Pharmacopœia and that the committee of reference in pharmacy, appointed by the pharmaceutical societies of Great Britain and of Ireland, had prepared valuable reports, which will be published in due time.—*Ibid.*, 1908, v. 26, p. 740.

The Pharmacopœia committee of the General Medical Council announces that the committee of reference in pharmacy has presented two reports—one containing suggestions for the revision of certain monographs of the Pharmacopœia (1898), the other containing the result of an analysis of 48,000 prescriptions during the last year or so.—*Ibid.*, 1908, v. 26, p. 765.

The report of the therapeutic committee of the British Association gives the following principles, which have guided the committee in the selection of the articles to be admitted to the Pharmacopœia: (1) Crude drugs, which contain an active ingredient possessing all the desirable actions of the crude drug, might be replaced by this active ingredient if it can be obtained commercially and its identification and purity insured. If such an active principle is official, the crude drug might be deleted. For example, jaborandi leaves, coca leaves, elaterium, and many crude drugs yielding only volatile oils might be omitted. (2) Drugs and their preparations possessing no obvious or serviceable action should be deleted, e. g., arnica rhizome, cusparia bark, hemidesmus root, lupulin, mezereon bark, serpentary rhizome. (3) Unnecessary duplication of the prepara-

tions of a drug should be avoided. Thus one 1 per cent solution of a morphine salt, or one solid extract of belladonna, is sufficient. (4) Purely diluent preparations of a drug should, as far as possible, be avoided, e. g., solution of potassium permanganate, almond mixture. (5) Substances which do not require to be defined officially for the protection of the practitioner or the vendor or the purchaser, e. g., prunes, figs, brandy, sherry, might be omitted. (6) Substances of no therapeutic importance which are used only in the making of preparations and are not contained in the final products should be deleted or transferred to an appendix, e. g., benzol, solution of iron persulphate.—Suppl. Brit. M. J., Lond., 1908, v. 2, p. 319. (See also Pharm. J., Lond., 1908, v. 27, p. 811, and Chem. and Drug., Lond., 1908, v. 72, p. 835.)

Deane, Harold, calls the attention of the therapeutic committee of the British Medical Association to the fact that one of the objects of a pharmacopœia is to provide a standard for medicines. The question with regard to any given drug or preparation is not "Is it useful?" but "Is it used?"—Pharm. J., Lond., 1908, v. 27, p. 861.

An editorial commends the list of deletions proposed by the therapeutic committee and says that a careful study of the lengthy list forces one to believe that many of them have been allowed to remain official on purely sentimental grounds. Many of those mentioned were no doubt honored in the dark days of medicine and pharmacy, and the Pharmacopœia committee appears to cling to them much in the same way as some individuals in private life cling to their old clothes and furniture. In individuals, however, as in societies, there are healthier ideas abroad, and the tendency on all hands is to replace the unnecessary and useless by the really useful.—*Ibid.*, p. 832.

Heebner, Chas. F., asserts that the Ph. Brit., which is the standard and guide for official drugs and preparations in Canada, is in nowise inferior to the U. S. P.—Canad. Pharm. J., Toronto, 1908, v. 42, p. 340.

7. DANISH.

Andresen, Siegfried, reviews the Ph. Dan. VII and points out that following the participation of Denmark in the proceedings of the Brussels Conference, 1902, the Danish Pharmacopœia now partakes of the nature of an international pharmacopœia. He points out that the nomenclature is at variance with general practice, owing to the agreement of the three Scandinavian countries, adopted in 1865, regarding Latin names.—Apoth. Ztg. Berl., 1908, v. 23, pp. 78 ff.

Hanausek, Eduard, points out that the Ph. Dan. VII is to be considered as a thoroughly up-to-date and scientific book. Even in the matter of scope an effort has been made to bring the pharmacopœia in

line with modern ideals. The former edition, 1893, contained 592 titles, while the present one contains only 489 titles, including the 30 new additions, making a net reduction of 103 articles.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 605.

An editorial commenting on the shortcomings of pharmacopœias asserts that the Ph. Dan. VII has gone to the extreme in brevity. The chemical feature has particularly suffered, for the tests are cut down in number and detail. Strange to say, the same pharmacopœia goes to the other extreme in pharmacognosy and introduces in great detail directions for the microscopical examination of powdered drugs.—*Meyer Bros.*, Drug., St. Louis, 1908, v. 29, p. 3.

Gram, Bille, discusses the pharmacognosy of the Ph. Dan.—*Arch. f. Pharm. og. Chem.*, Copenhagen, 1908, v. 15, pp. 7 ff.

Gehe & Co. (*Handels-Bericht*, 1908, v. 15) discuss the characteristic features of the Ph. Dan. VII and point out that the previous editions of this pharmacopœia appeared in 1772, 1805, 1840, 1850, 1868, and 1893.

8. DUTCH.

van Itallie, V., presents the reports forwarded to him by the several committees of local pharmaceutical associations containing suggestions for improving the National Pharmacopœia.—*Pharm. Weekblad.*, 1908, v. 45, pp. 235–247, 401–402.

9. GERMAN.

Scholtz, M., points out the desirability of having the language of the Ph. Germ. thoroughly modern and above reproach, and suggests that the proof of the book be submitted to experts in composition and style before the new edition is offered for sale.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 313.

Danckwortt, P., compares the general requirements of the Ph. Germ. IV with those embodied in other foreign pharmacopœias, and, in discussing the possibility of developing international agreements regarding the composition and strength of official medicaments, points out that the Ph. Germ. IV contains only 11 titles that are not included in one or more foreign pharmacopœias.—*Apoth. Ztg.*, Berl., 1908, v. 23, pp. 653–655.

A number of suggestions for additions to and deletions from the German Pharmacopœia are presented.—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 260.

Lorenzen, J., presents a number of suggestions for changes in the Ph. Germ.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 295. (See also p. 201 and pp 178–180.)

10. JAPANESE.

Shiohara, M., presents a review of the development of pharmacy in Japan and gives some information regarding the origin of the Japanese Pharmacopœia.—Bull. Pharm., Detroit, 1908, v. 22, pp. 498-501.

Gehe & Co. (Handels-Bericht, 1908, p. 15) call attention to some of the more important features of the Ph. Japon. III and point out that the Ph. Japon. II contained monographs for 429 articles, while the Ph. Japon. III includes no less than 685, of which number pharmacists are required to carry but 93 in stock. In the original edition of the pharmacopœia these articles are specially designated. This designation has been omitted from the English translation. The original text would be considered rather peculiar by the average European. The book begins at the back and the text is printed parallel with the long axis of the page, so that in the reading the book is held crosswise.

A news note announces the English translation of the new Japanese Pharmacopœia, which can be procured from the Japanese Pharmaceutical Society at Tokyo for the price of 7 yen.—Pharm. J., Lond., 1908, v. 26, p. 423.

Wulff, C., discusses the Ph. Japon. III, calls attention to some of the points in which this pharmacopœia appears to simulate the Ph. Germ. IV, and points out that the descriptions and formulas of the latter book have not been included without carefully reviewing and correcting the same.—Ber. d. phar., Gesellsch., Berl., 1908, v. 18, pp. 310-313.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 122-123) discuss the Ph. Japon. III and point out that there has been a satisfactory step made in advance of the former editions, although now and then incorrect and antiquated statements are made.

Mitlacher, W., calls attention to some of the drugs contained in the Ph. Japon. III.—Pharm. Post, Wien, 1908, v. 41, pp. 400-401. (See also pp. 45-47 and pp. 409-411.)

11. SWISS.

Weigel, G., asserts that the Ph. Helv. IV is unusually complete and thorough, and that each monograph discloses the expertness of its compilers.—Pharm. Zentralh., 1908, v. 49, p. 197.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. iv) discuss the Ph. Helv. IV and point out that this book has been elaborated with great care and that from both a practical and a scientific point of view it must be given consideration in the revision of the pharmacopœias of other countries.

Gehe & Co. (*Handels-Bericht*, 1908, v. 16) call attention to some of the more important characteristics of the Ph. Helv. IV which became official on March 1, 1908. The preparations included in the Brussels protocol are designated P. I., *prescriptiones internationales*. The official titles, in addition to the Latin, are given in German, French, and Italian. The general directions include the determination of ash, solubility, specific gravity, boiling point, melting point, the abbreviations for weights and measures, the limitation for an unweighable residue (0.0005 gm.), and the requirement that tests are to be made with a given quantity of liquid (10 cc.).

Schimmel & Co. (*Semi-Annual Report*, April, 1908, pp. 127-128) present a critique of the Ph. Helv. IV.

The tests for new remedies official in the Ph. Helv. IV are abstracted.—*Pharm. J.*, Lond., 1908, v. 26, p. 29.

Merck, E., suggests a number of corrections for the requirements embodied in the Ph. Helv. IV.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 339-342.

Tschirch, A., discusses the history of the Swiss pharmacopœia and its relation to the medical profession.—*Ibid.*, 1908, v. 46, pp. 756-760, 773-778.

Wilbert, M. I., reviews the pharmacopœia of Switzerland and calls attention to its history, method of revision, and some of the more characteristic features.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 342-347.

Bachem, C., reviews the Ph. Helv. IV from the standpoint of the medical practitioner. He points out that with articles of recognized therapeutic usefulness this pharmacopœia still contains much of what he designates as "ballast."—*Therap. Monatsh.*, Berl., 1908, v. 22, pp. 303-307.

Cloetta points out that the Ph. Helv. IV makes more demands on the apothecaries and that this is the best means of enhancing the dignity of the profession. The demands for testing the purity, etc., of the various drugs are so high that only scientifically trained men can comply with them.—*Pharm. Era*, N. Y., 1908, v. 39, p. 424.

Vogel, Th., reports on the introductory course of study on the methods of the Ph. Helv. IV that was held in Zürich.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 621-626.

Fleissig, P., presents a table giving the strength of a number of important medicaments as official in the Ph. Helv. IV and in the Ph. Germ. IV, and calls attention to the possible danger of untoward results in the event of mistaking a German prescription for one of Swiss origin or vice versa.—*Ibid.*, 1908, v. 46, pp. 678-682.

Buttin, Louis, presents a synopsis, in the form of tables, of the Ph. Helv. IV compared with the Ph. Helv. III.—*Ibid.*, 1908, v. 46, pp. 138, ff. See also article by Rordorf, pp. 133-136.

Thomann, J., calls attention to some of the reviews of the Ph. Helv. IV which have appeared in foreign literature.—*Ibid.*, 1908, v. 46, pp. 84, 335, 788.

Some of the more comprehensive of these reviews are by A. Kremel, Pharm. Post, Wien, 1908, v. 41, pp. 2-3, 17-19, 33-34; E. Rupp, Apoth. Ztg., Berl., 1908, v. 23, pp. 204, ff.; G. Weigel, Pharm. Zentralh., 1908, v. 49, pp. 197, ff.; H. Hérissé, J. de pharm. et de chim., Par., 1908, v. 27, pp. 480-489; A. Schamelhout, Bull. Soc. roy. de pharm. Brux., 1908, v. 52, pp. 48-54, 79-84; R. Van Gool, J. de pharm. d'Anvers, 1908, v. 64, pp. 281, ff.; and N. Bjerre, Arch. f. Pharm. og. Chem., Copenhagen, 1908, v. 15, pp. 121-127.

12. BRITISH PHARMACEUTICAL CODEX.

An editorial in commenting on the British Pharmaceutical Codex asserts that the publication of this book marks a great step forward in the work of overcoming charlatanism and quackery.—*Am. Drug-gist*, N. Y., 1908, v. 52, p. 141.

A book review of the British Pharmaceutical Codex calls attention to some of the more important characteristics found in this book.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 183-187.

Pinchbeck, G., discusses the chemistry of the British Pharmaceutical Codex and comments on a number of the articles included.—*Pharm. J.*, Lond., 1908, v. 26, pp. 689-672.

Franklin, J. H., presents a lengthy discussion of the galenicals of the British Pharmaceutical Codex.—*Ibid.*, 1908, v. 26, p. 672.

Woolcock, W. J. U., points out that the Codex is a book that has been written by pharmacists and is destined to raise the status of the pharmaceutical craft in the eyes of the medical profession.—*Ibid.*, 1908, v. 26, p. 417.

Wilbert, M. I., presents a number of suggestions from the British Pharmaceutical Codex.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 172-178.

Turner, T. E., discusses the British Pharmaceutical Codex and the criticisms that have appeared in English journals and asserts that, despite the somewhat venomous comments that have appeared regarding it, the B. P. C. is and will remain a boon to pharmacists.—*Australas. J. Pharm.*, Melbourne, 1908, v. 23, pp. 5 ff.

Wyatt, Harold, presents observations on some B. P. C. formulas and suggests a number of minor modifications in connection with the manipulation of some of the preparations.—*Yearbook of Pharmacy*, London, 1908, pp. 444-448.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 134-135) discuss the B. P. C and point out that it is in a sense a supplementary volume to the Ph. Brit.—See also *Ibid.*, November, 1908, pp. 142-143.

An editorial announces that a complete list of additions and corrections of the B. P. C. has been published and will be included in the B. P. C. supplement for 1908.—*Pharm. J., Lond.*, 1908, v. 27, p. 53.

An editorial points out that, like other authoritative books, the B. P. C. is now in the hands of the pharmaceutical body as a whole, and the responsibility of its future must rest with the craft, rather than with the compilers.—*Ibid.*, 1908, v. 27, p. 101.

An editorial asserts that the publisher's stock of the B. P. C. is entirely exhausted. A new edition of the work is in course of preparation but can not be ready for some months.—*Ibid.*, 1908, v. 26, p. 729.

The British Pharmaceutical Codex is the subject of a number of additional contributions, signed, as well as editorial, in the pages of the *Pharmaceutical Journal*, v. 26 and 27.

3. COMMENTS ON U. S. P. VIII RELATIVE TO THE REQUIREMENTS OF THE BRUSSELS CONFERENCE.

Hallberg, C. S. N., believes that the Pharmacopœia of the United States approaches more nearly the status of an international pharmacopœia than any other. He asserts that if we were to make a synthesized combination of the leading pharmacopœias of the world we should then probably have a pharmacopœia that would comprise most of the articles prescribed in this vast country.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 215.

Pfister, Richard, presents tables of comparison of strength and doses of the more potent galenicals of several pharmacopœias, for the use of pharmacists in compounding the prescriptions of foreign countries.—*Pharm. Ztg., Berl.*, 1908, v. 53, pp. 181-182.

May, Otto B., calls attention to several necessary corrections in the article by Pfister.—*Ibid.*, 1908, v. 53, p. 314.

Danckwortt, P., compares the general requirements of the Ph. Germ. IV with those included in the Ph. Brit. IV, Ph. Fr. IV, U. S. P. VIII, Ph. Ital. II, Ph. Svec. VIII, Ph. Hisp. VI, Ph. Ndl. IV, Ph. Austr. VIII, Ph. Belg. III, Ph. Dan. VII, Ph. Hisp. VII, and Ph. Japon. III.—*Apoth. Ztg., Berl.*, 1908, v. 23, p. 553.

SPANISH EDITION OF THE U. S. P. VIII.

Remington, Joseph P., reported progress on the printing of the Spanish translation of the Pharmacopœia of the United States, and a special committee was appointed to devise ways and means of placing the Spanish edition on the market.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 169.

Hallberg, C. S. N., believes that the Spanish translation of the U. S. Pharmacopœia is now ready for distribution.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 215.

An unsigned article asserts that the "Farmacopea de los Estados Unidos"—the Spanish revision of the United States Pharmacopœia—is in print and only awaits the index to be issued for the benefit of the Spanish-speaking pharmacists of our possessions and the pharmacists of Mexico, Cuba, and South American Republics.—Nat. Druggist, St. Louis, 1908, v. 38, p. 347. (See also Chem. & Drug., Lond., 1908, v. 73, p. 641.)



III. COMMENTS ON OFFICIAL ARTICLES.

ACACIA.

Kühl, H., calls attention to some of the physical properties and general characteristics of commercial varieties of acacia; also describes several little-known varieties that may eventually come into the market either as substitutes for acacia or for other purposes.—Pharm. Ztg., Berl., 1908, v. 53, p. 251.

Hills, Walter, recommends that the description for gum acacia be made more terse. The tests with lead subacetate and with borax should be omitted, as they do not appear to serve any useful purpose; the gum should be entirely soluble in cold water; the tests with lead acetate and ferric chloride and the test for starch are detailed.—Rep. Com. Ref. Genl. Med. Council (to October 29, 1908), Lond., 1908, p. 3.

An unsigned article discusses the cultivation of *Acacia senegalensis* and the production of acacia in the Egyptian Soudan.—J. d'Agric. trop., Par., 1908, v. 8, pp. 61–62.

Pearson, W. A., calls attention to the fact that four grades of acacia, A, B, C, and D, are sold, depending largely on color and general appearance. He recommends that some more definite color standards be given in the Pharmacopœia.—Am. J. Pharm., Phila., 1908, v. 80, p. 75.

Volcy-Boucher discusses the nature of the ferments present in gums, gum-resins, and in resins.—Bull. pharm. du sud-est, Montpel., 1908, v. 13, pp. 297–302.

Several illustrations showing the method of transporting acacia are reprinted.—Bull. Pharm., Detroit, 1908, v. 22, pp. 128–129.

Alcock, F. H., in a discussion of some powdered drugs notes that his conclusion that the insoluble part of acacia should not exceed 0.2 per cent has not met with the approval of the committee of reference in pharmacy. He emphasizes that he referred only to commercial samples of powdered gum acacia.—Pharm. J., Lond., 1908, v. 27, p. 353. See also Year-Book of Pharmacy, London, 1908, p. 429.

Francis, John M., asserts that recently there has appeared in New York a substance known as powdered acacia which does not test up as a genuine acacia should do. The product is probably obtained from some closely related gum imported from Africa; just what it is has as yet not been determined.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 797.

Dohme and Engelhardt report one sample of acacia containing an excess of mineral matter, viz, 8 per cent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 814.

Smith, Kline & French Co. (Analytical Report, 1908, p. 5) report examining 4 samples of acacia, all of U. S. P. quality and satisfactory physical appearance. The amounts of ash present were 3, 2.7, 3.06, and 3.38 per cent, respectively.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 84), reports on 3 samples of acacia which were found to contain from 2.73 to 3.15 per cent of ash.

Cæsar & Loretz (*Geschäfts-Bericht*, 1908, p. xxxiv) report that the acacia that is coming into the market is below average quality, having been depreciated by the early rains.

"A French Canadian" submits three formulas for the making of mucilage of acacia.—*Drug. Circ.*, N. Y., 1908, v. 52, p. 113.

Hommell, P. E., believes that the recommendation of the U. S. P. that sirup of acacia should be made in small quantities is a frank admission that it is hard to keep from souring; the *Pharmacopœia* should direct that the sirup and mucilage be prepared extemporaneously.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 100.

Cook, E. Fullerton, suggests that the water directed to be used in the U. S. P. formula for sirup of acacia be increased to 480 c. c.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 956.

Erhardt, E. (*Therap. d. Gegnw.*, Berl., v. 49, No. 7), adds mucilage of acacia to the solution of the anæsthetic in spinal anæsthesia to retard absorption.—*J. Am. M. Ass.*, 1908, v. 51, p. 540.

ACETANILIDUM.

Engelhardt, H., in a paper on antipyretics discusses the chemistry of acetanilide and outlines the relation of this chemical to others of the same group.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 232.

Hills, Walter, believes that the empirical formula, for acetanilide, only should be given; constitutional formulæ should not, as a rule, be introduced into the *Pharmacopœia*. The ferric chloride test should be omitted, as the reaction occurs even when acetanilide is not present. The melting point should be 113° C., and in the test with sulphuric acid the use of cold acid should be specified.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 3.

Seidell, A., points out that the U. S. P. requires that acetanilide dissolve in 179 parts of water and in 2.5 parts of alcohol. His determinations indicate that it dissolves in 184 parts of water and in 2.62 parts of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 529.

Frey, Otto, thinks that the official Ph. Austr. description of acetanilide should take cognizance of the fact that this material frequently

occurs in commerce as a white powder.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 606.

Emery, W. O., outlines a method for the separation of caffeine, acetanilide, and sodium bicarbonate and presents a table giving the results obtained in the cooperative work done on acetanilide mixtures of this type.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 100–102. (*Bull. Bur. Chem.*, U. S. Dept. Agric., 1909, No. 122.)

Rose and Becker call attention to a method for the estimation of acetanilide, acetphenetidin, and acetyl-morphine in mixtures, worked out by them, which depends on a direct saponification with a non-volatile acid, distillation in a current of steam, and subsequent titration of the distillate with standard alkali.—*Proc. Pennsylvania Pharm. Ass.*, 1908, pp. 271–274.

Warren and Fuller (5th Ann. Conv. Ass. Off. Agr. Chem., Wash., D. C., Nov. 12–16, 1908) discussed the influence of glycerin and acetanilide in the estimation of alcohol in pharmaceutical preparations.—*Exp. Sta. Rec.*, 1908–9, v. 20, p. 398.

Schneider, A., reports finding an admixture of antipyrine tablets in what had been purchased as acetanilide tablets.—*Pharm. Zentralh.*, 1908, v. 49, pp. 1033–1035.

Lehn & Fink (Annual Report for 1908, p. 10) assert that samples of acetanilide answering the U. S. P. requirements in every particular are readily obtained.

The Bureau of Chemistry calls attention to the fact that a compilation of opinions on the harmful nature and effect of acetanilide, antipyrine, phenacetin, and similar substances is now being made.—*Ann. Rep. U. S. Dept. Agric.*, 1908–9, p. 434.

The editor states, in response to an inquiry, that acute acetanilide poisoning is best treated by washing out the stomach; chronic poisoning is treated after the method described by Herrick in the "Journal" of February 3, 1906.—*J. Am. M. Ass.*, 1908, v. 50, p. 300.

ACETONUM.

Pages Camus et Cie have been awarded a patent for the production of acetone by conducting the vapors of acetic acid over a heated acetate.—*Chem. Ind.*, Berl., 1908, v. 31, p. 413.

Heikel, Gunnar, discusses the quantitative determination of acetone and reports a study of the several processes now used.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 75–76.

Dumesny and Noyer (*L'Industrie Chimique des Bois, leurs Dérivés et Extraits Industriels*. Paris, 1908, pp. III–402, figs. 107). The chemical industries utilizing wood, its products and industrial extracts. This is a scientific and technical treatise on the utilization of wood in the production of chemicals and extracts.—*Exp. Sta. Rec.*, 1908–9, v. 20, p. 544.

Kebler, L. F., reports one sample of acetone with suspended impurities and an excess of aldehyde. Two additional samples contained excess of aldehyde.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 775.

Gane and Webster point out that in view of the dangerous character of petroleum benzin it would appear that more attention should be paid to the desirable qualities of acetone as a solvent.—*Drug Topics*, New York, 1908, v. 23, p. 293.

Smith, Kline & French Co. (Analytical Report, 1908, p. 5) report examining 13 samples of acetone the specific gravity of which ranged from 0.789 to 0.795 at 25° C.

Blome, Walter H., reports on 7 samples of acetone. Good, but occasionally contain a little ferric oxide from the iron drum.—*Proc. Michigan Pharm. Ass.*, 1908, p. 90.

Beringer, George M., suggests an improved formula for preparing cantharidal collodion, using acetone as a solvent.—*Proc. New Jersey Pharm. Assoc.*, 1908, pp. 65-67.

Coull, George, criticizes acetone collodion, B. P. C., and suggests a change in the strength of the preparation.—*Pharm. J., Lond.*, 1908, v. 80, p. 566. (See also pp. 573, 595, 620, 660, 723, 808.)

ACETPHENETIDINUM.

A correspondent discusses the controversy regarding the labeling of acetphenetidin, or phenacetin, as a derivative of acetanilide, and presents several communications from manufacturers objecting to the ruling made under the food and drugs act, June 30, 1906.—*Oil, Paint, and Drug Reporter*, New York, 1908, v. 74, Oct. 5, p. 9. (See also *Drug Topics*, New York, 1908, v. 23, pp. 305-306.)

Engelhardt, H., in a paper on antipyretics, discusses the chemistry of phenacetin and outlines the relation of this chemical to others of the same group.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 232.

Frey, Otto, asserts that the melting point of acetphenetidin should be given as: 135° to 136°.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 606.

Seidell, A., points out that the U. S. P. requires that acetphenetidin dissolve in 925 parts of water and in 12 parts of alcohol. His determinations indicate that it dissolves in 1,305 parts of water and in 12.0 parts of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 529.

Smith, Kline & French Co. (Analytical Report, 1908, p. 6) report examining 13 samples of acetphenetidin, two of which were unsatisfactory.

Lehn & Fink (Annual Report for 1908, p. 10) report that they readily obtained acetphenetidin answering the requirements of the U. S. P.

Woolsey, J. F., reports on one lot of acetphenetidin, U. S. P., physical condition bad. Soft amorphous substance instead of the crystalline product required.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

ACIDUM ACETICUM.

Pearson, W. A., suggests that the strength of acetic acid could be raised materially without loss to the manufacturer.—Am. J. Pharm., Phila., 1908, v. 80, p. 75.

Hills, Walter, asserts that when acetic acid is tested for lead according to the quantitative colorimetric test described in the Appendix, by using 10 gm. in each Nessler glass, no difference in color should be observed upon the addition of the sodium sulphide to one of the solutions, showing absence of lead.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 4.

An editorial, in commenting on the Ph. Fr. V, points out that the article on acetic acid takes three pages, one page being devoted to specific gravities. The acid required by the Codex is 100 per cent, a special test being given to determine the presence or absence of water; and the specific gravity is stated as 1.0553 at 15° C. The rise and fall of the specific gravity of mixtures of acid with water is very fully explained, so that the descriptions assume the character of those contained in a handbook rather than an official definition.—Am. Druggist, N. Y., 1908, v. 53, p. 222.

Richmond, H. Droop, reports a study to determine the rate of distillation of acetic acid in aqueous solution, describes the method in detail, and illustrates the apparatus used.—Analyst, London, 1908, v. 33, pp. 305-312.

Vogel, Otto, presents a contribution to the history of the distillation of wood and the production of acetic acid.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 561-562.

Smith, Kline & French Co. (Analytical Report, 1908, p. 6) report that they have examined 25 samples of acetic acid. One contained a trace of sulphates, another an excess of empyreumatic substances and fixed impurities, and left a residue on evaporation.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 73.

Fresenius and Grünhut discuss the commercial analysis of crude calcium acetate.—Ztschr. f. anal. Chem., Wiesb., 1908, v. 47, pp. 597-623.

Army, H. V., reports on 10 samples of acetic acid examined. Three were of pharmacopœial strength, while the others varied from 27.8 per cent to 35.7 per cent.—Proc. Ohio Pharm. Ass., 1908, p. 89. (See also Midland Druggist, 1908, v. 10, p. 14.)

Bachman, Gustav, reports that the samples of acetic acid examined ranged from 33.97 to 35.4 per cent.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Scoville, W. L., examined two lots of acetic acid containing traces of heavy metals.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 766.

Woolsey, J. F., reports on one sample of acetic acid, labeled C. P., U. S. P., which assayed 28.33 per cent absolute acid and had a strong empyreumatic odor.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Philipp Röder (Jahresbericht, Wien, 1908, p. 11) reports that 4 of the 7 samples of acetic acid examined contained less than the claimed amount of absolute acid. One sample of 65 per cent acid was found to contain but 12.77 per cent of CH_3COOH .

Bleibtreu, L. (München. med. Wehnschr., v. 55, No. 38), has seen three cases of fatal poisoning from pyroligneous acid, and has found 132 cases of fatal poisoning recorded.—J. Am. M. Ass., 1908, v. 51, p. 1561.

ACIDUM ACETICUM DILUTUM.

Blome, Walter H., reports on 14 samples of diluted acetic acid varying from 1.57 to 37.03 per cent absolute acetic acid. The worst one, 37.03 per cent, was dispensed by a physician.—Proc. Michigan Pharm. Ass., 1908, p. 90.

ACIDUM ACETICUM GLACIALE.

Hill, Charles Alexander, suggests that neither lead nor arsenic be permitted in glacial acetic acid.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

van Wermeskerken, J. L., reports a sample of glacial acetic acid as not complying with the permanganate test.—Pharm. Weekblad., 1908, v. 45, p. 211.

Smith, Kline & French Co. (Analytical Report, 1908, p. 6) report examining 3 samples of glacial acetic acid, all being U. S. P. quality. Two were of 99 per cent strength, the other 99.4 per cent.

Blome, Walter H., reports on 2 samples of glacial acetic acid, 98.87 and 98.75 per cent.—Proc. Michigan Pharm. Ass., 1908, p. 90.

McGill, A., reports 45 samples of glacial acetic acid examined; 34 contained 95 per cent and were adjudged genuine, 11 were decidedly below standard strength, two samples falling to about 50 per cent.—Bull. Lab. Int. Rev. Dept. Canada, No. 153, 1908, p. 8.

ACIDUM BENZOICUM.

Seidell, A., points out that the U. S. P. requires that benzoic acid dissolve in 281 parts of water and in 1.8 parts of alcohol. His determinations indicate that it dissolves in 271.4 parts of water and in 1.76 parts of alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 529.

Kebler, L. F., reports on two samples of benzoic acid containing chloride.—*Ibid.*, p. 775.

Scoville, W. L., asserts that some lots of benzoic acid have an objectionable odor.—*Ibid.*, p. 766.

Dohme and Engelhardt report on two samples of natural benzoic acid which had a considerable amount of chlorides, and therefore were apparently adulterated with synthetic benzoic acid.—*Ibid.*, p. 815. (See also Proc. Maryland Pharm. Ass., 1908, p. 34.)

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 6), report finding three defective samples of benzoic acid. One sample of synthetic acid gave a pronounced odor of benzaldehyde. Chlorine compounds were also discovered in so-called natural acid, although the majority of these samples examined were perfectly satisfactory.

Halphen, G., discusses the characterization of benzoic acid and its detection in butter.—Ann. de Chim. analyt., Par., 1908, v. 13, p. 382. (See also Lucien, Robin, *Ibid.*, pp 431-433.)

Phelps, Phelps & Osborne report a number of experiments on the esterification of benzoic acid with alcohol and mixtures of alcohol and hydrochloric acid or zinc chloride.—Am. J. Sc., 1908, v. 25, pp. 39-48.

LaWall and Bradshaw outline a method for the quantitative estimation of benzoic acid in catsup.—Am. J. Pharm., Phila., 1908, v. 80, pp. 171-172.

v. Genersich, Wilhelm, reviews and discusses the several methods that have been described for determining benzoic acid in foods.—Ztschr. f. Unters. Nahr. u. Genussm., 1908, v. 16, pp. 222-225.

de Jong, A. W. K., presents a criticism of the method of K. Scheringa (*Ibid.*, 1907, 984) for the separation of benzoic and cinnamic acids, and expresses his doubt as to the value of the method for quantitative work.—Pharm. Weekblad., 1908, v. 45, pp. 1115-16.

Bigelow, W. D., reports on the cooperative work done on methods for determining benzoic acid and discusses several of the methods that have been proposed or used.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., pp. 68-77. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Wiley, H. W., presents a report of investigations on the effects of benzoic acid and benzoates upon digestion and health.—Bull. Bur. Chem., U. S. Dept. Agric., 1908, No. 84, pt. 4, pp. 1043-1294.

An editorial in commenting upon H. W. Wiley's experiments on benzoic acid and other preservatives in food, remarks that the greatest uncertainty still surrounds the whole question as to the limit of preservative which may be allowed, and expresses the hope that the Local Government Board will press for legislation enabling national standards for preservatives in food to be set up.—Pharm. J., Lond., 1908, v. 27, p. 253.

An editorial comments on the experiments made in the Bureau of Chemistry of the Department of Agriculture, relating to benzoic acid and points out that the prohibition of the use of benzoic acid as a preservative will be a serious loss to commercial interests.—Paint, Oil and Drug Review, Chicago, 1908, v. 46, July 29, p. 9. See also Oil, Paint and Drug Reporter, New York, 1908, v. 74, July 27, p. 16.

Wiley, H. W., asserts that the administration of benzoic acid was demonstrated to be attended with a distinct loss of weight indicative of either a disturbance of assimilation or an increased activity in those processes of the body which result in the destruction of tissue. He concludes that in the interests of health both benzoic acid and sodium benzoate should be excluded from food products.—Proc. Am. Philosoph. Soc., 1908, v. 47, pp. 317-319.

Lehmann, K. B., reviews our present knowledge of the action and the use of benzoic acid as a preservative agent.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 850-852.

ACIDUM BORICUM.

Hills, Walter, suggests that as boric acid not infrequently contains notable proportions of lead, a lead limit should be fixed. Twenty parts of lead in 1,000,000 would be a reasonable limit.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 4. He also recommends that boric acid should form a clear solution with water (to exclude carelessly prepared acids).—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 4.

Hill, Charles Alexander, suggests as a standard for boric acid 10 parts lead per million, and arsenic 5 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

Mansier, referring to the need of boric acid in a high state of division for ointments, describes a method of pulverization by chemical means, depending upon the hydration of the fused acid.—Répert. d. pharm. Par. 1908, v. 20, p. 7. (See also abstract in Drug Topics, New York, 1908, v. 23, p. 73.)

Seidell, A., points out that the U. S. P. requires that boric acid dissolve in 18 parts of water and in 15.3 parts of alcohol. His determinations indicate that it dissolves in 17.45 parts of water and in 13.3 parts of alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 529.

Kebler, L. F., found traces of iron, chloride, and sulphate in boric acid.—*Ibid.*, 1908, v. 56, p. 775.

Blome, Walter H., reports on boric acid of good quality. Some samples marked "Impalpable" are full of crystals.—Proc. Michigan Pharm. Ass., 1908, p. 90.

Patch, E. L., reports boric acid with an average assay of 99.69 per cent. One lot had excess of sulphate.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 767.

Barnard, H. E., reports on one sample of boric acid examined having 96.8 boric acid, and being very dirty.—Rep. Indiana Bd. Health, 1908, p. 340.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 8) report the examination of 84 samples of boric acid which, as a rule, satisfied the requirements, but one sample showed 100 parts of lead per million and others up to 40 parts. Several contained up to 20 parts per million. Four samples yielded 5 parts and one 6 parts of arsenic per million. Traces of sulphate are generally present in the commercial samples: one consignment of the latter contained 0.5 per cent as sulphuric acid.

Philipp Röder (Jahresbericht, Wien, 1908, p. 13) discusses the tests for boric acid in the Ph. Austr. VIII, and reports that but 1 of the 6 samples examined did not comply with these rather rigid tests.

Diekman, Geo. C., points out that in the preparation of ointment of boric acid heat should be applied carefully so as not to decompose the acid. The necessary degree of heat should be definitely stated in the directions which are faulty in this respect.—Am. Druggist, 1908, v. 52, p. 90. (Bull. Am. Pharm. Ass., 1908, v. 3, p. 83.)

v. Genersich, Wilhelm, reviews the several methods that have been proposed for the qualitative and quantitative determination of boric acid in foods.—Ztschr. f. Unters, Nahr. u. Genussm., 1908, v. 16, pp. 210–218.

Lavalle, Francisco, P., discusses the detection of boric acid in foods by means of curcuma paper, and points out that traces of boric acid are not necessarily indicative of deliberate contamination.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 816–817.

Mannich and Priess discuss the detection of boric acid in foods.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 314–315.

Fynn, E., reporting on a request to use boric acid in foodstuffs, gives his opinion, based upon the conclusions of numerous authorities, that its use should be absolutely prohibited in the preparation of foods, as well as in the wrappings containing them.—Bol. Ministr. Agric., Buenos Aires, 1908, v. 10, pp. 125–132.

Malbrán, speaking on behalf of the Department of Hygiene, relative to granting permission to use boric acids in foodstuffs, states that in view of the conclusions of eminent authorities as to the well-known effects of boric acid, the department does not hesitate in declaring its strong conviction that its use in the preservation of foodstuffs should be prohibited.—*Ibid.*, 1908, v. 10, pp. 125–132.

Wiley, H. W., in discussing the influence of preservatives upon health and metabolism, asserts that the administration of boric

acid to the amount of 4 or 5 grams per day, or borax equivalent thereto, continued for some time, results in most cases in loss of appetite and inability to perform work of any kind.—*Proc. Am. Philosoph. Soc.*, 1908, v. 47, p. 311.

Bernstein, Ralph, asserts that boric ointment, a drachm to the ounce of petrolatum, often does good in eczema and is an excellent soothing ointment.—*Hahnemann. Month., Phila.*, 1908, v. 43, p. 368.

Mercadé, Salva (*Arch. gén. de méd.*, July), mentions two fatal cases of poisoning with boric acid used as an antiseptic.—*N. York M. J.*, 1908, v. 88, p. 656.

ACIDUM CAMPHORICUM.

Seidell, A., points out that the U. S. P. requires that camphoric acid dissolve in 125 parts of water and readily in alcohol. His determinations indicate that it dissolves in 131.6 parts of water and in 0.957 parts of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 529.

Hemm, Francis, says that thus far camphoric acid has not been prescribed within his notice.—*Proc. Missouri Pharm. Ass.*, 1908, p. 109.

Tyrode, Maurice Vejux, reports observations on camphoric acid, its actions, and uses. He concludes that this drug, as such, acts in the same order as the other organic acids, which are not decomposed in the body. Its ions have so little activity that it possesses only the action derived from its physical properties. He sees no justification in its use as a respiratory and heart stimulant, nor as an antihydrotic in tubercular night sweats.—*Boston M. & S. J.*, 1908, v. 158, p. 908. (See also *Arch. internat. de pharmacod. et de thérap.*, 1908, v. 18, pp. 393-408.)

Wells, G. Harlan, points out that, when atropine fails, camphoric acid in 12-grain doses, has been found useful in controlling night sweats in tuberculosis.—*Hahnemann. Month., Phila.*, 1908, v. 43, p. 609.

ACIDUM CITRICUM.

Hills, Walter, says that when citric acid is tested for lead according to the quantitative colorimetric test described in the appendix using 12 gm. in the primary solution, not more than 5 cc. of the dilute lead solution should be required in the dummy solution, showing that the proportion of lead present does not exceed 5 parts per million.—*Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908)*. Lond., 1908, p. 4.

Hill, Charles Alexander, suggests as a standard for citric acid 5 parts per million lead, and arsenic 1 part per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Seidell, A., points out that the U. S. P. requires that citric acid dissolve in 0.54 part of water and in 1.55 parts of alcohol. His determinations indicate that it dissolves in 0.49 part of water and in 1.004 of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 529.

van Itallie, E. I., discusses the Ph. Ndl. IV test for oxalic acid in citric acid and reports a number of experiments to determine the reason for the insolubility of ammonium oxalate in ammonium citrate solution, and the solubility of calcium oxalate in the resulting mixture.—*Ztschr. f. anorg. Chem.*, 1908, v. 60, pp. 358–365. (See also *Pharm. Weekblad.*, 1908, v. 45, pp. 1201–1210.)

Kebler, L. F., reports on 2 samples of citric acid, 1 of which contained a trace of iron and the other a trace of sulphates.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 775.

Smith, Kline & French Co. (Analytical Report, 1908, p. 6) report the examination of 2 samples of citric acid: Strength, 99.5 and 99.6 per cent; ash, 0.057 and 0.1 per cent, the latter being abnormal. (See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 73.)

Blome, Walter H., reports on 14 samples of citric acid. All good but one, which made a cloudy solution.—*Proc. Michigan Pharm. Ass.*, 1908, p. 90.

Kahn, Joseph, asserts that the adulteration of citric acid with tartaric acid has been practically reduced to a minimum.—*Proc. New York Pharm. Ass.*, 1908, p. 224.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 12) point out that the standard brands of citric acid probably approach theoretical purity as closely as any other commercial substance. Of 45 samples examined by them the limit of 1 part of arsenic per million was only touched by 4. Between 10 and 20 parts of lead per million was found in 7 samples, the remainder containing less than 10. They assert that a maximum lead content of 10 parts per million would appear to be a commercial possibility. Noncombustible matter was present to the extent of 0.05 per cent in only 3 samples.

Tatlock and Thomson report that the maximum amount of lead found by them in citric acid never exceeded 0.010 per cent.—*Analyst*, London, 1908, v. 33, p. 174.

Philipp Röder (Jahresbericht, Wien, 1908, p. 14) discusses some of the Ph. Austr. VIII and the Ph. Helv. IV tests for citric acid and reports that, of 14 samples examined, 3 contained heavy metals, sulphates, and lime salts, while 1 was also adulterated with tartaric acid.

van Wermeskerken, J. L., reports citric acid containing distinct traces of lead.—*Pharm. Weekblad.*, 1908, v. 45, p. 212.

ACIDUM GALLICUM.

The therapeutic committee of the British Medical Association suggests that gallic acid be deleted from the Ph. Brit., as investigations have proved it to be of little value.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 319.)

Hemm, Francis, thinks that, although not extensively used, it has its particular uses, sufficient to warrant its retention in the Pharmacopœia.—Proc. Missouri Pharm. Ass., 1908, v. 110.

Hills, Walter, believes that as the aqueous solution of gallic acid does not precipitate tartarated antimony, the statement that it does should be corrected.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 4.

Herzig and Tscherne, Epstein and v. Bronneck report experimental work on resoflavin and some of its analogues from gallic acid.—Monatsh. f. Chem., Wien, 1908, v. 29, pp. 281-294.

ACIDUM HYDRIODICUM DILUTUM.

Heikel, Gunnar, discusses the official process for making hydriodic acid and points out that, while the resulting product may be pure enough for most medicinal purposes, the degree of purity is low indeed. He outlines a method which depends on the decomposition of barium iodide by means of sulphuric acid.—Am. J. Pharm., Phila., 1908, v. 80, pp. 581-583.

Sperry, E. D., examined 10 samples of diluted hydriodic acid containing from 2.63 to 9.62 per cent hydriodic acid. Only one (10.13 per cent) met the pharmacopœial requirement; the residues varied from 0.312 to 0.725 per cent. None of the samples contained arsenic.—Proc. Massachusetts Pharm. Ass., 1908, p. 79.

Smith, Kline & French Co. (Analytical Report, 1908, p. 6), report examining 1 sample of hydriodic acid which contained 14.75 per cent absolute acid.

Hemm, Francis, reports that a specimen of diluted hydriodic acid 6 months old has turned red.—Proc. Missouri Pharm. Ass., 1908, p. 109.

Cook, E. Fullerton, asserts that for sirup of hydriodic acid it is important to select the best grades of chemicals, that the several ingredients should be carefully weighed, and that all apparatus used in the process be scrupulously clean.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 956.

ACIDUM HYDROBROMICUM DILUTUM.

Hills, Walter, asserts that when hydrobromic acid is tested for lead, according to the quantitative colorimetric test described in the Appendix, using 12 gm. in the primary solution, not more than 5 cc. of

the dilute lead solution should be required in the dummy solution, showing that the proportion of lead present does not exceed 5 parts per million.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 4.

White, Edmund, gives a general description of hydrobromic acid as used as a reagent, the strength of the solutions most commonly used, the tests that are applicable to insure its purity, and the trade varieties.—Pharm. J., Lond., 1908, v. 26, p. 10.

Merck, E., points out that in the Ph. Helv. IV test for excess of chloride the ammonia should be increased from 2 c. c. to 10 c. c.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 340.

Hemm, Francis, thinks the use of diluted hydrobromic acid is very limited.—Proc. Missouri Pharm. Ass., 1908, p. 110.

Smith, Kline & French Co. (Analytical Report, 1908, p. 7) report that 2 of the samples of hydrobromic acid examined by them contained an excess of heavy metals and residue; strength, 6.9 and 8.9 per cent. Another sample contained sulphates and assayed 10.09 per cent; another assayed 11.8 per cent. (See also Proc. Pennsylvania Pharm. Ass., 1908, p. 73.)

ACIDUM HYDROCHLORICUM.

Pearson, W. A., believes that the U. S. P. standard for hydrochloric acid could be raised to 35 per cent.—Am. J. Pharm., Phila., 1908, v. 80, p. 75.

Hills, Walter, reports on the examination of several samples of hydrochloric acid, showing a considerable variation in the solid residue. This residue should not exceed 0.01 per cent. When tested for lead according to the quantitative colorimetric test described in the Appendix using 12 gm. in the primary solution, not more than 10 cc. of the dilute lead solution should be required in the dummy solution, showing that the proportion of lead present does not exceed 10 parts per million.—Rep. com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, pp. 4-5.

Hill, Charles Alexander, suggests as a standard for hydrochloric acid, lead 10 parts per million and arsenic 5 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

Cellarius, R., describes and illustrates a centrifuge for purifying gaseous hydrochloric acid.—Ztschr. f. ang. Chem., 1908, v. 21, pp. 104-108.

Sirk, H., presents a number of observations on the rate of combination of chlorine and hydrogen.—Ztschr. f. physik. Chem., 1908, v. 61, pp. 545-555.

Baly and Marsden in a paper on the relation between absorption spectra and chemical constitution suggest an exceedingly delicate test for HCl.—Pharm. J., Lond., 1908, v. 27, p. 693.

Luther and MacDougall discuss the kinetics of the reaction between hydrochloric acid and chloric acid.—*Ztschr. f. physik. Chem.*, 1908, v. 62, pp. 199–242.

An abstract (from *N. Erf. u. Erf.*) points out that the yellow color of commercial hydrochloric acid is usually attributed to the presence of traces of iron, but that it not infrequently is due to the presence of free chlorine or to chlorine compounds produced by organic material such as wood or straw.—*D.-A. Apoth.-Ztg.*, New York, 1908–9, v. 29, p. 4.

White, Edmund, gives a general description of hydrochloric acid used as an analytical reagent and the tests to be applied to insure its purity.—*Pharm. J., Lond.*, 1908, v. 26, p. 10.

Kebler, L. F., reports on a sample of hydrochloric acid which contained sulphate and calcium chloride.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 776.

Smith, Kline & French Co. (Analytical Report, 1908, p. 7) report the examination of 15 samples of hydrochloric acid ranging in strength from 32.7 to 36 per cent; 1 sample contained 0.26 per cent of sulphuric acid, traces of iron, free bromine, and chlorine. (See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 74.)

Blome, Walter H., reports on 18 samples of diluted hydrochloric acid having from 3.28 to 14.76 per cent of absolute acid.—*Proc. Michigan Pharm. Ass.*, 1908, p. 90.

Bachman, Gustav, reports that the sample of diluted hydrochloric acid examined assayed only 4.09 per cent. The pharmacist from whom this sample was purchased, it appears from this and other evidence, makes his dilute acids by diluting one volume of the concentrated acid with nine volumes of water.—*Proc. Minnesota Pharm. Ass.*, 1908, p. 50.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 19) report that they usually find about 1 part of arsenium per million in commercial samples of hydrochloric acid. They think that a maximum of 1 part per million would be a commercial possibility.

Fauvel, Pierre, finds that in healthy men the ingestion of hydrochloric acid in a dose of 1 gm. per day diminishes notably the excretion of xanthines (xantho-uriques) and slightly that of uric acid, whether the diet does or does not contain purins. This diminution does not appear to be due to a precipitation in the organism of uric acid.—*Compt. rend. Soc. de biol. Par.* 1908, v. 64, p. 736.

Fuld, E. (*Therap. Monatsh., Berl.*, v. 22, No. 11), reviews the theories of the therapeutics and of the secretion of hydrochloric acid. He calls attention to the misuse of pepsin in alcoholic solution, and states that hydrochloric acid is useful in a large proportion of the cases of deficient secretion.—*J. Am. M. Ass.*, 1908, v. 51, p. 2197.

ACIDUM HYDROCYANICUM DILUTUM.

Coblentz and May report a study of the reasons for the deterioration of diluted hydrocyanic acid.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 879-881.

Blome, Walter H., reports on two samples of diluted hydrocyanic acid: 1.68 and 1.76 per cent absolute HCN.—*Proc. Michigan Pharm. Ass.*, 1908, p. 90.

Michael and Hibbert present several communications on the constitution of cyanogen compounds.—*Ann. d. Chem., Leipz.*, 1908, v. 364, pp. 64-76, 129-146.

An editorial comments on fumigation with hydrocyanic acid gas and outlines some of the precautions to be observed.—*Pharm. J., Lond.*, 1908, v. 26, p. 376.

ACIDUM HYPOPHOSPHOROSUM.

Heikel, Gunnar, suggests that the best way to prepare hypophosphorous acid is to use barium hypophosphite with the exact quantity of sulphuric acid necessary. He also outlines a method for preparing barium hypophosphite.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 583.

Smith, Kline & French Co. (Analytical Report, 1908, p. 7), report examining 12 samples of hypophosphorous acid ranging in strength from 25.5 to 59 per cent.

Patch, E. L., found calcium oxalate and traces of iron in a sample of hypophosphorous acid. Assay from 48 per cent to 49.5 per cent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 767.

Blome, Walter H., reports one sample of hypophosphorous acid which contained an excess of phosphoric, phosphorous, sulphuric, oxalic, and tartaric acids.—*Proc. Michigan Pharm. Ass.*, 1908, p. 90.

ACIDUM LACTICUM.

Hills, Walter, suggests that for the words "when heated * * * remains" substitute "when burned with free access of air not more than 0.5 per cent of solid residue should remain." There is no object in so minutely describing what takes place during incineration as is done in the present official monograph. When tested for lead according to the quantitative colorimetric test described in the Appendix, using 7 gm. in the primary solution, not more than 10 cc. of the dilute lead solution should be required in the dummy solution, showing that the proportion of lead present does not exceed 10 parts per million.—*Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond.*, 1908, p. 5.

Scoville, W. L., reports on several samples of lactic acid ranging from 72.3 per cent to 89.2 per cent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 767.

Smith, Kline & French Co. (Analytical Report, 1908, p. 7), report examining one lot of lactic acid with a specific gravity of 1.205 and strength of 75.6 per cent. It also conformed to the other U. S. P. requirements.

Efimow, J. (Wratschebnaja Gaz., 1908, No. 6; Deutsche Med.-Ztg., 1908, No. 88), discusses the use of lactic acid in inoperable cancer.—Merck's Ann. Rep., 1908, Darmstadt, 1909, v. 22, p. 109.

ACIDUM NITRICUM.

Hill, Charles Alexander, suggests as a standard for nitric acid, lead, 20 parts per million; arsenic, 5 parts per million.—Chem. and Drug., Lond., 1908, v. 72, p. 797.

Hills, Walter, reports on the examination of several samples of nitric acid, showing a considerable variation in the solid residue, which should not exceed 0.05 per cent.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908) Lond., 1908, p. 5.

An unsigned article describes the manufacture of nitric acid and discusses the processes employed.—Chem. Eng., 1908, v. 8, pp. 148-156.

Pearson, W. A., discusses the use of nitric acid and nitrates and the artificial production of nitrates.—Am. Druggist, N. Y., 1908, v. 52, p. 89.

A review of some recent advances in chemical industry presents abstracts from literature on methods of combining atmospheric nitrogen.—Am. Chem. J., 1908, v. 39, pp. 791-794.

Smith, Kline & French Co. (Analytical Report, 1908, p. 7) report examining 9 samples of nitric acid, ranging in strength from 68 to 72 per cent; all were of U. S. P. quality.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 24) report finding about 1 part of arsenic per million in several samples of the commercial "pure" nitric acid. No other impurity was observed.

Philipp Röder (Jahresbericht, Wien, 1908, p. 15), reports examining 3 samples of nitric acid, only 1 of which complied with the pharmacopœial requirements. The 2 samples objected to contained hydrochloric acid and 1 contained, in addition, appreciable traces of iron.

Thompson and Wilson report an interesting case of poisoning by strong nitric acid; death after 6 months.—Brit. M. J., Lond., 1908, v. 2, p. 1679.

Campanella, G. (Gazz. d. osp., Milano, v. 29, No. 110), reports favorably upon the use of steam impregnated with nitric acid fumes in the treatment of chronic bronchitis.—J. Am. M. Ass., 1908, v. 51, p. 1475.

ACIDUM OLEICUM.

Hills, Walter, asserts that the official tests are too stringent; they exclude acid of sufficient purity for medicinal use.—Rep. Com. Ref., Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 5.

Smith, Kline & French Co. (Analytical Report, 1908, p. 7) report examining 3 samples of oleic acid, all becoming semisolid at $+4^{\circ}$ C. and congealing at $+2^{\circ}$ C. and $+1^{\circ}$ C. Specific gravity, 0.894 to 0.895 at 25° C.

Lewkowitsch, J., discusses the conversion of oleic acid into candle material.—J. Soc. Chem. Ind., Lond., 1908, v. 27, pp. 489–491.

ACIDUM PHOSPHORICUM.

Hill, Charles Alexander, suggests as a standard for phosphoric acid (1.75), lead, 10 parts per million; arsenic, 5 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

Hills, Walter, believes that it is not desirable to substitute an acid of specific gravity 1.75; the strength should be determined by titration with alkali, as this method is both more convenient and more accurate than the present lead process.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 5.

Christensen, P., discusses the estimation of phosphoric acid as phosphomolybdic acid and reports a number of experiments previously published to controvert criticisms made by Jörgensen.—Ztschr. f. anal. Chem. Wiesb., 1908, v. 47, pp. 529–545.

Raben, Emil, presents a note on the direct estimation of phosphoric acid as ammonium phosphomolybdate.—*Ibid.*, 1908, v. 47, p. 546.

Coblentz and May report experiments to determine the reasons for the variations in the results obtained by the present alkalimetric titration; also report result obtained with the iodometric titration for phosphoric acid proposed by Christensen, which they have found to be satisfactory.—Am. J. Pharm., Phila., 1908, v. 80, p. 153. (See also Proc. Am. Pharm. Ass., 1908, v. 56, pp. 874–879.)

Lyons, A. B., discusses the use of silver nitrate in the volumetric determination of free phosphoric acid. He concludes that while phosphoric acid can be determined with reasonable accuracy by titration with an alkali hydroxide, using cochineal as an indicator, the determination can be made with greater precision by titrating with N/25 limewater in presence of silver nitrate, using phenolphthalein as indicator.—Am. Druggist, New York, 1908, v. 52, p. 174.

May, Otto B., points out that A. B. Lyons overlooks the fact that silver nitrate was proposed for the volumetric estimation of phosphoric acid in 1894 by Holleman.—*Ibid.*, 1908, v. 52, p. 226.

Lyons, A. B., discusses the use of hematoxylin as an indicator in the titration of phosphoric acid. He points out that color changes exhibited by hematoxylin are, as yet, but imperfectly understood and offer an unusually interesting opportunity for experimental research.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 97-101.

Pinchbeck, G., recommends the use of methyl orange in place of phenolphthalein as an indicator in determining phosphoric acid by the U. S. P. method.—*Pharm. J.*, Lond., 1908, v. 26, p. 670.

"P—." discusses the theory of the titrimetric determination of phosphoric acid and outlines several methods for practical elaboration.—*Pharm. Zentralh.*, 1908, v. 49, pp. 1035-1037.

Kebler, L. F., reports that the article sold under the name glacial phosphoric acid is metaphosphoric acid mixed with either sodium pyrophosphate or sodium metaphosphate, or both. On dissolving the material in water it reverts to phosphoric acid.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 776.

Smith, Kline & French Co. (Analytical Report, 1908, pp. 7-8) report examining 37 samples of phosphoric acid, 9 of which were of inferior quality. The strengths of the samples ranged from 81.96 to 91 per cent; all contained traces of impurities. (See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 74.)

Blome, Walter H., reports on 3 samples of sirupy phosphoric acid 85.3, 85, and 85.3 per cent pure.—*Proc. Michigan Pharm. Ass.*, 1908, p. 90.

Sayre, L. E., reports 6 samples of diluted phosphoric acid of standard strength; 2 samples examined were not "diluted," but too dilute to conform with tests for the stronger acid.—*Bull. Kansas Bd. Health*, 1908, v. 4, pp. 154, ff.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 28) assert that 4 parts of arsenic per million was the highest contamination found in about 20 samples of phosphoric acid examined by them.

Philipp Röder (Jahresbericht, Wien, 1908, p. 17) report that 2 out of 3 samples of phosphoric acid examined did not comply with the Ph. Austr. VIII requirements.

Wörner, E., outlines a method for the determination of phosphoric acid in foods.—*Ztschr. f. Unters. Nahr. u. Genussm.*, 1908, v. 15, pp. 732-734.

Jannasch and Jilke present a communication on the quantitative volatilization of phosphoric acid from phosphates by means of carbon tetrachloride and chlorine.—*J. f. prakt. Chem. Leipz.*, 1908, v. 78, pp. 21-28.

A number of references on the determination of phosphoric acid are given.—*Exp. Sta. Rec.*, 1908-9, v. 20, p. 610.

ACIDUM SALICYLICUM.

Pancoast and Pearson call attention to several physical characteristics which they believe to be constant and indicative of the origin of salicylic acid made from oil of wintergreen or oil of birch.—*Am. J. Pharm., Phila.*, 1908, v. 80, pp. 407-410.

Kahn, Joseph, asserts that salicylic acid is present as methyl ester in oil of wintergreen, from which the acid is still obtained for pharmaceutical use, but it is generally prepared synthetically from phenol.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 213.

Hills, Walter, believes that the test with ammonium citrate should be omitted; it serves no useful purpose.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 5.

An unsigned article discusses the quantitative estimation of salicylic acid by means of bromine water and outlines a modification of the Lagrange method as proposed by E. Filippi.—*D.-A. Apoth.-Ztg.*, New York, 1908-9, v. 29, p. 3.

Pearson, W. A., believes that special tests should be introduced for limit of ortho- or meta-cresol, which may be present in synthetic salicylic acid.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 75.

Bougault, J., presents a note on the process of Messinger and Vortmann for the estimation of certain phenols. Separation of salicylic acid.—*Compt. rend. Acad. d. sc. Par.* 1908, v. 146, p. 1403. (See also *Répert. d. pharm. Par.* 1908, v. 20, pp. 377, 391-392.)

Hopfgartner, K., presents a contribution to the knowledge of the reaction of salicylic acid with iron and iron compounds.—*Monatsh. f. Chem.*, Wien, 1908, v. 29, pp. 689-712.

Larrousurou, J., presents a study on the fluorescence of salicylic acid, its color, and nature and the influence of various substances on its development.—*Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 238-245, 271-275, 292-296, 330-332.

Seidell, A., notes that the U. S. P. requires that salicylic acid dissolve in 308 parts of water and in 2 parts of alcohol. His determinations indicate that it dissolves in 453.5 parts of water and in 2.13 parts of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 529.

Dohme and Engelhardt have examined salicylic acid and its derivatives, according to Carletti, for phenol and phenol-like bodies.—*Ibid.*, 1908, v. 56, p. 818.

Engelhardt and Jones report that of 12 samples of synthetic salicylic acid examined, 2 contained phenol.—*Ibid.*, 1908, v. 56, p. 868.

Philipp Röder (*Jahresbericht. Wien*, 1908, p. 17) recommends Carletti's test for the presence of phenol in salicylic acid. (See *Hyg. Lab. Bull.* No. 63, p. 127.) Also reports on an otherwise unobjectionable sample of salicylic acid which melted at from 158-160°.

Yanagisawa, H., outlines a method for the quantitative estimation of salicylic acid in saké by means of chloroform. He points out that it is necessary to shake out at least twice. The Freyer bromine trituration method he found to be unsuited because of the variation in the constituents of saké.—*J. Pharm. Soc., Japan.* 1908, p. 907.

Gibbs, H. D., discusses the separation of salicylic acid from methyl salicylate, and the hydrolysis of the ester, and shows that methyl salicylate when used in foods and drugs may give rise to the presence of salicylic acid either as an impurity in the ester or through its hydrolysis.—*Philippine J. Sc.*, 1908, v. 3, A., pp. 101-109.

v. Genersich, Wilhelm, reviews the several methods described for the qualitative and quantitative determination of salicylic acid in foods.—*Ztschr. f. Unters. Nahr. u. Genussm.*, 1908, v. 16, pp. 218-222.

Bigelow, W. D., reports the cooperative work done on the detection of preservatives, outlines a rapid method for the determination of salicylic acid and presents a table showing the comparative efficiency of solvents on salicylic acid dissolved in claret wine.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., pp. 64-68. (*Bull. Bur. Chem., U. S. Dept. Agric.*, 1909, No. 122.)

Christian discusses the use of salicylic acid, reviews some of the literature relating to the efficiency of salicylic acid as a preservative and its reputed harmfulness to the animal organism. He concludes that not exceeding 1 gm. of salicylic acid per day is not considered to be harmful to man.—*Hyg. Rundschau.* 1908, v. 18, pp. 1321-1331.

Wiley, H. W., in a discussion of the influences of preservatives upon health and metabolism, asserts that the addition of salicylic acid and salicylates to foods is reprehensible in every respect and leads to injury to the consumer, which, though in many cases not easily measured, must finally be productive of great harm.—*Proc. Am. Philosoph. Soc.*, 1908, v. 47, p. 315.

Kahn, Joseph, quotes Joseph E. Winters to the effect that as an antidote to rheumatism the salicylates must be from nature, organic, or vegetable; also from Rosenzweig and Roginsky, that the natural product does not depress the heart as much as the artificial product; it does not upset the stomach as much, and it acts more rapidly.—*Proc. New York Pharm. Ass.*, 1908, p. 225.

Hemm, Francis, says that physicians will insist that they obtain better results without untoward effects from the natural acid than from the synthetically prepared acid, which they assert produces unpleasant action. As the price of the first is many times greater than that of the latter, it strikes him as being worth a thorough ventilation.—*Proc. Missouri Pharm. Ass.*, 1908, p. 112.

Gross presents a paper on the therapeutic action of salicylates, discussing the comparative worth of the synthetic and natural salicyl-

ates. and the qualifications necessary to differentiate between the two.—*Proc. Indiana Pharm. Ass.*, 1908, pp. 21–25.

Jacoby, Martin, presents some observations on the retention of salicylic acid in the blood serum of rabbits.—*Biochem. Ztschr.*, Berl., 1908, v. 9, pp. 522–526.

Jacoby and Schütze report observations on the influence of re-sorbed salicylic acid on the opsonic functions of serum.—*Ibid.*, 1908, v. 9, pp. 527–532.

ACIDUM STEARICUM.

Dohme and Engelhardt assert that the melting point as given in the U. S. P., viz, 56° C. for commercial stearic acid, seems to be rather high; most of the samples examined melted at 54 to 55° C.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 818.

Seoville, W. L., found the melting point of several samples of stearic acid to vary from 55° to 58° C.—*Ibid.*, 1908, v. 56, p. 767.

Smith, Kline & French Co. (Analytical Report, 1908, p. 8) report examining 4 samples of stearic acid, the m. p. of which ranged from 56 to 57° C. One sample congealed at 55° C. and the other 3 at 54° C.

Lehn & Fink (Annual Report for 1908, p. 10) report that the melting points of 2 samples of stearic acid were respectively 55° and 56°. Both samples were readily and clearly soluble in warm alcohol.

Philipp Röder (Jahresbericht, Wien, 1908, p. 132) reports on 4 samples of stearin which were found to melt at from 57° to 62° C. and to have a saponification value of from 209 to 215.

ACIDUM SULPHURICUM.

Hill, Charles Alexander, suggests as a standard for sulphuric acid, lead, 20 parts per million; arsenic, 5 parts per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Hills, Walter, reports on the examination of several samples of sulphuric acid showing a considerable variation in the solid residue, which should not exceed 0.05 per cent.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 5.

An abstract from "Things Chemical" outlines the contact process patents for the manufacture of sulphuric acid.—*Drug Topics*, New York, 1908, v. 23, pp. 1–3. (See also *Chem. Eng.*, 1908, v. 7, pp. 185–193; v. 8, pp. 51–62.)

Smith, Thorn, reports on experiments made with the ferric iron contact process of making sulphuric acid from smelter smoke and concludes that the experiments confirm the generally accepted belief that contact processes are not applicable to the manufacture of sulphuric acid from sulphur dioxide containing smelter fumes.—*Trans. Am. Inst. Chem. Eng.*, 1908, v. 1, pp. 178–183.

Reusch, K., reviews the economical conditions affecting the production of sulphuric acid, the production of sulphur and pyrites, and the advances made in the methods of producing sulphuric acid.—*Chem. Ztg.* Cöthen, 1908, v. 32, pp. 217–219.

Bruhn, G. A., discusses the production of sulphuric acid from the crude sulphur ores of Sicily.—*Ibid.*, 1908, v. 32, pp. 457–458; 1223–1224.

An abstract (from *Eng. and Min. Jour.*) asserts that in Great Britain sulphuric acid is made almost entirely from pyrites, imported chiefly from Spain.—*J. Frankl. Inst., Phila.*, 1908, v. 165, p. 298.

Smith, Kline & French Co. (Analytical Report, 1908, p. 8) report examining 13 samples of sulphuric acid the strengths of which ranged from 90.1 to 97 per cent, 2 being below the U. S. P. standard.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 40) report examining 5 samples of sulphuric acid during the year. One part of arsenic per million was the highest contamination. Several contained traces of ammonia, but were practically free from other impurity.

Bachman, Gustav, reports that the samples of diluted sulphuric acid examined ranged from 8.97 to 10.8 per cent.—*Proc. Minnesota Pharm. Ass.*, 1908, p. 50.

Lichty, D. M., discusses the nature of absolute sulphuric acid; its preparation from sulphur trioxide and water; its specific electric conductivity and that of more dilute acid.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1834–1846.

Whetham, W. C. D., records experiments and observations on the electrolytic properties of dilute solutions of sulphuric acid.—*Chem. News, Lond.*, 1908, v. 98, pp. 98–100.

Paine, H. H., elaborates on the suggestions made by Whetham.—*Ibid.*, 1908, v. 98, pp. 118–120, 127–130, 158–159.

Betts, Norman S., in discussing the management of the menopause, asserts that the transitory hyperamias have been often benefited by sulphuric acid.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 426.

ACIDUM SULPHUROSUM.

Hemm, Francis, thinks that the process for making sulphurous acid, while apparently too complicated for the pharmacists' use, will, after a little study and trial, prove easily executed. As stock acids are more often than not unfit for use, a process for the preparation of a reliable, fresh article is quite desirable.—*Proc. Missouri Pharm. Ass.*, 1908, p. 112.

Hills, Walter, states that when sulphurous acid is tested for lead according to the quantitative colorimetric test described in the Appendix, using 12 gm. in the primary solution, not more than 10 cc. of the dilute lead solution should be required in the dummy solution

showing that the proportion of lead present does not exceed 10 parts per million.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 5.

Pitcher, W. A., examined 11 samples of sulphurous acid containing from 0.027 to 5.5 per cent SO_2 . None were fully up to the U. S. P. standard and three did not contain any SO_2 .—Proc. Massachusetts Pharm. Ass., 1908, p. 78.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 40) examined several inferior samples of sulphurous acid containing vegetable and mineral impurities; the nature of these impurities showed that they were derived from the water used.

Wiley, H. W., believes that the administration of sulphurous acid in foods, either in the form of sulphurous acid gas in solution or in the form of sulphites, is objectionable and produces serious disturbances of the metabolic functions and injury to health.—Proc. Am. Philosoph. Soc., 1908, v. 47, p. 315.

ACIDUM TANNICUM.

Hills, Walter, believes that the water of crystallization should be omitted; tannic acid does not occur in crystalline form.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 6.

Lloyd, Stewart J., presents a preliminary note on the constitution of gallotannic acid and of tannins in general, and suggests that natural gallotannic acid is composed of three digallic groups united in a 6-element ring.—Chem. News, Lond., 1908, v. 47, p. 133.

Feist, K., discusses the chemistry of tannin and its probable structural formula.—Chem. Ztg., Cöthen, 1908, v. 32, p. 918. (See also Pharm. Ztg., Berl., 1908, v. 53, pp. 761-762; Pharm. Post, Wien, 1908, v. 41, pp. 793-795, and Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, pp. 516-517.)

Iljin, L. F., comments on several recent communications on the constitution of tannin.—Pharm. Ztg., Berl., 1908, v. 53, pp. 675.

Nierenstein, M., presents a contribution on the constitution of tannin, in which he discusses some of the acetyl derivatives of tannin.—Ber. d. deutsch. chem. Gesellsch., Berl., 1908, v. 41, I, pp. 77-80.

The same author presents some additional experiments on the constitution of tannin.—*Ibid.*, 1908, v. 41, II, pp. 3015-3019.

Wood, J. T., discusses the compounds of gelatin and tannin, and points out that the resulting combination of gelatin and tannin is neither a purely chemical one, since the gelatin and tannin compound is not of constant composition, nor a purely physical one, since it does not obey the solution laws, which require the concentration of the tannin, the solution, and the tannin in the gelatin to maintain a constant ratio.—J. Soc. Chem. Ind., Lond., 1908, v. 27, pp. 384-387.

Zwick, Carl G., discusses the use of the Zeiss immersion refractometer in the analysis of tannin-containing materials.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 405–406.

Metzges, Gg., outlines a method for the electrolytic determination of tannin which obviates the use of hide powder.—*Ibid.*, 1908, v. 32, p. 345.

Smith, Kline & French Co. (Analytical Report, 1908, p. 8) report examining 5 samples of tannic acid; 2 contained 0.69 and 1.03 per cent of ash, respectively; the other 3 only a trace.

Harvey, T. F., reports that 13 samples of pure tannic acid of commerce lost 0.5 per cent of their weight at 100° C.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Philipp Röder (Jahresbericht. Wien, 1908, p. 17) reports examining 5 samples of tannic acid the moisture content of which varied from 6.91 to 13.5 per cent.

ACIDUM TARTARICUM.

Hill, Charles Alexander, suggests as a standard for tartaric acid lead 10 parts per million, arsenic 1 part per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

Hills, Walter, believes that a stringent limit should be placed on the amount of total sulphates in tartaric acid, since these in the dissolved, or even moist, acid liberate sulphuric acid, traces even of which are very objectionable. He describes a test which he recommends as sufficiently stringent for practical purposes.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908). Lond., 1908, p. 6.

Seidell, A., points out that the U. S. P. requires that tartaric acid dissolve in 0.71 part of water and in 1.67 parts of alcohol. His determinations indicate that it dissolves in 1.36 parts of water and in 2.41 parts of alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 529.

Denigès, G., discusses the color reactions of tartaric acid.—Bull. Soc. de pharm. de Bordeaux, 1908, v. 48, pp. 321–328.

A communication from the Chemischen Fabrik vormals Goldenberg, Geromont u. Co. proposes a modification of the Goldenberg method for the estimation of tartaric acid in tartaric-acid-containing raw materials.—Ztschr. f. anal. Chem., Wiesb., 1908, v. 47, pp. 57–59.

Gowling-Scopes, L., discusses the estimation of tartaric acid in the presence of malic and succinic acids. He concludes that while the method proposed by J. von Ferentzy is clean and sharp, more accurate results may be obtained by titrating the basic magnesium tartrate with potassium permanganate.—Analyst, London, 1908, v. 33, pp. 315–319.

Pozzi-Escot, Em., presents a method for the volumetric estimation of tartaric acid in tartrates and lees.—Compt. rend. Acad. d. sc. Par. 1908, v. 146, p. 1031.

Tatlock and Thomson assert that their experience is quite against the usual opinion that cream of tartar is purer than tartaric acid as regards lead. They have had samples of the former containing, respectively, 0.015, 0.035, and 0.041 per cent of lead, while in the tartaric acid the lead has never exceeded 0.012 per cent.—Analyst, London, 1908, v. 33, p. 174.

Kebler, L. F., reports on one sample of tartaric acid which contained lead and sulphate, while another sample contained iron and sulphate.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Seoville, W. L., reports that heavy metals were rarely found in tartaric acid.—*Ibid.*, 1908, v. 56, p. 767.

Patch, E. L., found the quality much improved. One lot had trace of copper.—*Ibid.*, v. 56, p. 767.

Smith, Kline & French Co. (Analytical Report, 1908, p. 8) report examining 1 sample of tartaric acid which showed a trace of calcium and was 99.8 per cent pure.

Harris, A. E., reports 3 samples of tartaric acid containing 0.015, 0.012, and 0.012 per cent of lead. This is below the standard adopted by traders and analysts and sanctioned by the local government board.—Pharm. J., Lond., 1908, v. 27, p. 69.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 41) report the arsenic, lead, and ash content of over 150 samples of tartaric acid examined by them during the year. Only 23 of these samples contained less than 10 parts of lead per million.

Philipp Röder (Jahresbericht, Wien, 1908, p. 18) reports that 3 of the 7 samples of tartaric acid examined did not comply with pharmacopœial requirements, 1 containing sulphuric acid, while the other 2 were contaminated by heavy metals.

Riedel's Berichte (Berlin, 1908, pp. xlv-xlvi) discusses the determination of succinic acid and of tartaric acid in mixtures of the two, and outlines a method depending on the use of magnesium hydroxide.

ACIDUM TRICHLORACETICUM.

Moerk, Frank X., points out that no percentage requirement is given in the text, but that, from the number of cc. of volumetric solution used, trichloroacetic acid U. S. P. should contain not less than 98.89 per cent (table, p. 569, U. S. P. VIII. gives 98.9 per cent) of absolute acid.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 899.

Pinchbeck, G., asserts that nitric acid is a probable impurity in trichloroacetic acid and recommends that it be guarded against.—Pharm. J., Lond., 1908, v. 26, p. 671.

Hemm, Francis, thinks this preparation seems to be falling into disuse.—Proc. Missouri Pharm. Ass., 1908, p. 110.

Kailan. Anton, reports experiments to determine the conduct of trichloroacetic acid on esterification.—*Monatsh. f. Chem.*, Wien, 1908, v. 29, pp. 799–844.

Iverson, M. (Wisconsin M. J., Milwaukee, 1908–9, vii, 409–411), discusses the use of trichloroacetic acid.—*Index Medicus*, 1909, v. 7, p. 234.

ACONITINA.

Hills, Walter, asserts that the formula, characters, and tests for aconitine require revision.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 6.

Heikel, Gunnar, reports a number of experiments to show the applicability of Meyer's reagent for the quantitative estimation of aconitine.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1150.

Schulze, Heinrich, discusses the oxidation products of aconine, a product obtained from aconitine by hydrolysis.—*Arch. d. Pharm.*, 1908, v. 246, pp. 281–292.

Pearson, W. A., points out that aconitine is so variable that uniform results from its use can only be hoped for after physiologic assay.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 76.

Waller, A. D. (*Proc. Physiol. Soc.*, Oct. 19, 1907, p. 30) reports observations on the action of aconitine on the nerve fibers of frogs; he finds that solutions of 1:100,000 are distinctly toxic.—*Biochem. Centralbl.*, Leipz., 1908, v. 7, p. 108.

ACONITUM.

Hills, Walter, reports on experiments specially made which have shown that German aconite root is richer in alkaloid than English. In view of this fact and of the general use on the Continent of German aconite root (the tincture being one of the articles of the international agreement) it is not desirable that the drug should be restricted to English root. It should be standardized to contain 0.40 per cent of alkaloid when tested by the process of the U. S. P. He submits a monograph approved for this drug.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 6.

Rusby, H. H., reports that olive-pit powder is found in powdered aconite.—*Drug. Circ.*, N. Y., 1908, v. 52, p. 370.

Dohme and Engelhardt assert that they did not experience any difficulty in procuring a good aconite root; shipments with 0.7 per cent to 0.9 per cent alkaloids could easily be obtained.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 814.

Smith, Kline & French Co. (*Analytical Report*, 1908, p. 8) report the assay of 5 samples of aconite, with aconitine ranging from 0.40 to 0.56 per cent.

Rusby, H. H., asserts that an importation of Japanese aconite has been brought in under the name aconite.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 767, 790.

Patch, E. L., reports aconite root assaying from 0.46 per cent to 1.05 per cent alkaloid.—*Ibid.*, 1908, v. 56, p. 767.

Blome, Walter H., reports on 2 samples of aconite root 0.42 and 0.326 per cent aconitine.—*Proc. Michigan Pharm. Ass.*, 1908, p. 90.

Vanderkleed, Charles E., reports 5 assays of aconite root; 0.430 per cent lowest, 0.843 per cent highest, 0.701 per cent average, 4 above and 1 below standard.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 88.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 3) report 4 samples of aconite root assayed by Panchaud's process. Three were of foreign origin and yielded 1.21, 1.58, and 1.25 per cent total alkaloid. The other was an English sample and yielded 1.78 per cent total alkaloid.

Cesar & Loretz (*Geschäfts-Bericht*, 1908, p. cxxi) point out that the pharmacopœial requirements for the alkaloid content of aconite root vary from 0.5 per cent in the U. S. P. to 0.8 per cent in the Ph. Belg. and the Ph. Helv.

Lyons, A. B., points out the fallaciousness of the present assay process for aconite and why the test fails. He concludes that no chemical assay process for aconite and its preparations should be prescribed which does not include the identification of the alkaloid obtained. Official recognition should be given, at least provisionally, to Squibb's test as the only one by which, at present, the activity of aconite and its preparations can be practically judged.—*Am. Druggist*, N. Y., 1908, v. 52, p. 89. (See also *Drug Topics*, New York, 1908, v. 23, p. 69.)

Umney and Bennett assert that there is little difficulty in the U. S. P. assay of aconite, with the separations, but it is better to filter the ether solutions through cotton wool, as filtration is slow and the filter paper can not be properly washed with small quantities of ether. The titration should be made with N/20 solutions.—*Pharm. J.*, Lond., 1908, v. 27, p. 345. (See also *Yearbook of Pharmacy*, London, 1908, p. 517.)

Pearson, W. A., asserts that the criticism that the pharmacopœial assays of aconite and its preparations are unworkable is false, yet there is plenty of room for improvement. He believes that the physiologic dilution test is of some value in quickly approximating the value of this drug, but at best this test is approximate.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 75-76.

Parker, C. E., reports the result of cooperative work done on the assaying of aconite root and points out that the average results of the two methods of assay are in very good agreement, but consider-

ably under the U. S. P. standard of 0.50 per cent.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., pp. 131–132. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Beringer, George M., asserts that in the assay of aconite and preparations of the same ether is directed as the solvent, although it is well known that chloroform is the better solvent for the alkaloids of aconite. He suggests that in place of ether chloroform be substituted or a mixture of chloroform and ether, as directed in the Ph. Germ.—Proc. New Jersey Pharm. Ass., 1908, p. 90.

de Myttenaere, Ferd. presents observations on the alkaloidal assay of tincture of aconite, and asserts that the methods prescribed in different pharmacopœias give results that differ widely.—Ann. de pharm. Louvain, 1908, v. 14, pp. 147–149. (See also abstracts in Nat. Druggist, St. Louis, 1908, v. 38, p. 357.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 21) report the assay of 2 samples of fluid extract of aconite: aconitine in 100 c. c., 0.4 gm. and 0.385 gm.

An unsigned article asserts that William J. Schieffelin found that fluid extract of aconite deteriorates 10 per cent within a year.—Am. Druggist, New York, 1908, v. 53, p. 264.

Dunlap, Renick W., reports on 1 sample of aconite tincture, which was found to be adulterated.—Rep. Dairy & Food Com., Ohio, 1909, p. 52.

Smith, Kline & French Co. (Analytical Report, 1908, p. 38) report that the 1 sample of tincture of aconite which they assayed contained 0.0448 gm. of aconitine per 100 cubic centimeters.

Beringer, George M., outlines a formula for fluid glycerate of aconite, the procedure to be followed, and asserts that the resulting preparation has formed very little sediment. It has remained entirely clear above this and the smallest amount gives the characteristic acrid taste and tingling sensation of aconite. It mixes clear with water, sirup, or diluted alcohol, but becomes cloudy with alcohol. It assayed by the U. S. P. process of assaying fluid extract of aconite 0.345 gm. of alkaloid in 100 c. c. The powdered dry marc was nearly free from acidity and the aconite was practically exhausted.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 985.

Betts, Norman S., in discussing the management of the menopause, asserts that the transitory hyperæmias have been often benefited by aconite.—Hahnemann. Month., Phila., 1908, v. 43, p. 426.

Hollingsworth, T. D., asserts that aconite is one of the few drugs indicated in tonsillitis.—Eclectic M. J., Cincin., 1908, v. 68, p. 383.

Fearn, John, reviews the therapeutic use of aconite and its possible combination with other remedies. He asserts that aconite is a terrible and deadly poison. It acts on the vasomotor nervous system.

It is a heart paralyzant. It is the remedy for asthenia.—*Ibid.*, 1908, v. 68, pp. 251-256.

Longfield, F. J., in discussing the treatment of septicæmia, points out that aconite is indicated by increased temperature, dry hot skin, small frequent pulse, and restlessness.—*Tr. Nat. Eclect. M. Ass.*, 1908, v. 36, p. 292.

Eliot, Gustavus, asserts that next to the use of specific drugs in their special diseases, there is nothing of greater importance than the use of aconite in acute affections characterized by fever.—*Boston M. & S. J.*, 1908, v. 158, p. 252.

Speirs, Henry, reports a case in which a liniment of aconite, belladonna, and chloroform was swallowed by mistake, as illustrating the physiological antagonism between aconite and belladonna. He urges hypodermic injections of atropine in all cases of aconite poisoning, and commends the wisdom of the framers of the Pharmacopœia in compounding pharmacological antidotes in many of their formulas.—*Brit. M. J.*, Lond., 1908, v. 2, p. 372.

ADEPS.

Frey, Otto, thinks that hog's lard might properly be designated officially as "*Adeps suillus*."—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 642.

Hills, Walter, reports that it has been agreed that the method of preparation should be "by washing, melting, and straining the abdominal fat of the hog"; that the melting point should fall between 38° and 41° C.; that in the description the word "homogeneous" should be inserted after "white." These alterations are desirable to exclude such lard as is prepared from, or contains the fat obtained from, other parts of the animal; such fat is wanting in the consistence and homogeneity that lard should possess. Starch should be omitted from the substances to be tested for.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 7.

Seitter, Eduard, reviews the methods employed in making American and German lard and points out that American, so-called refined, lard is in effect a product differing in composition and properties from the native lard.—*Ztschr. f. Unters. Nahr. u. Genussm.*, 1908, v. 15, pp. 485-486.

Leys, Alexandre, presents the results of a research on foreign fats in lard.—*Ann. de chim. analyt.*, Par., 1908, v. 13, pp. 57-65.

König and Schluckebier discuss the influence of fat in food material on the fat of the animal, review the work that has been done in this connection and present the results of a number of observations on the influence of various fats on the resulting lard of hogs.—*Ibid.*, 1908, v. 15, pp. 641-661.

Richardson and Farey report observations on the composition of lard from oily hogs.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1191–1192.

Smith, Kline & French Co. (Analytical Report, 1908, p. 8) report examining 3 samples of adeps having acid numbers as follows: 4.7, 5.1, 18.6.

Barnard, H. E., reports that, of the 90 samples of lard examined, 5 proved to be of inferior quality, a percentage of adulteration of 5.5.—*Rep. Indiana Bd. Health*, 1908, p. 199.

Fitz-Randolph, R. B., reports that 189 samples of lard were examined and 22 were found to be adulterated with cotton seed oil and beef stearin. The deception practiced in the sale of this article is almost entirely on the part of the retailer. Compound lard comes to the dealer in packages properly marked, but in response to a demand for "lard" he frequently sells the purchaser compound lard without informing him of its true nature, and without placing any label on the package. This form of deception is widespread throughout the state and is clearly a violation of the law.—*Rep. New Jersey Bd. Health*, 1908, p. 222.

McGill, A., reports that of 140 samples of lard examined, 129 were genuine, 7 doubtful, 2 adulterated, and 2 compound.—*Bull. Lab. Int. Rev. Dept. Canada*, No. 147, pp. 17.

ADEPS BENZOINATUS.

Sayre, E. A., asserts that the Pharmacopœia describes lard as hog's fat, and provides a formula for combining it with benzoin, and while every pharmacist should, perhaps, prepare this simple article himself, it is a well-known fact that this is not done, and large quantities of benzoinated lard are sold annually by the large manufacturers. He has tried numerous makes, finding them all to contain wax in a greater or less degree, regardless of the season of the year, and would like to learn the name of a maker whose article corresponds with the pharmacopœial requirements.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 108.

Hills, Walter, recommends that Sumatra benzoin in coarse powder be stirred continuously for 1 hour with lard at 60° C., it having been found that this procedure gives the best result.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 7.

ADEPS LANÆ.

Hills, Walter, suggests that if the name "lanolin" is free the synonym "anhydrous lanolin" should be given. The melting point should be about 40° C. Tests are described.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 7.

Lemaire, P., contributes an interesting article on the employment and designations of lanolin hydrated and anhydrous which is both historical and practical.—*Répert. d. pharm. Par.* 1908, v. 20, pp. 481-488.

Smith, Kline & French Co. (Analytical Report, 1908, p. 8) report examining 4 samples of *adeps lanae* with the m. p. ranging from 40° to 42° C. and the ash content from 0.05 to 0.21 per cent.

Philipp Röder (*Jahresbericht, Wien*, 1908, p. 18) discusses the testing of wool-fat and reports on 5 samples of the pharmacopoeial article which varied in water content from 0.12 to 0.39 and melting point from 39° to 42° C.

An editorial calls attention to the researches of P. G. Unna (*Monatshefte für praktische Dermatologie*, v. 45, Nos. 8 and 9), who has found that wool-fat and lanolin do not contain cholesterin, which exists in the human skin, or cholesterin ester, both of which Liebreich stated were present in these products, but they do contain isocholesterin and oxycholesterin and lanoceric and lanopalmitic acids, the importance of this lying in the fact that lanolin is not found in the human skin as Liebreich stated, and on that statement the therapeutic use of lanolin has been based.—*New York M. J.*, 1907, v. 86, p. 1218.

ADEPS LANÆ HYDROSUS.

Gane and Webster point out that since the expiration of the patent the market has been flooded with a lot of different makes, most of which are highly objectionable. While chemically many of these preparations answer most of the U. S. P. requirements, the odor frequently has "limburger" beat a block. They point out that crude lanolin, under the name of "oesypus," was one of the oldest of all unguents, dating back to Biblical times. Somewhere about the middle ages it fell into disrepute owing to the disgusting odor of the crude fat.—*Drug Topics*, New York, 1908, v. 23, p. 260.

Smith, Kline & French Co. (Analytical Report, 1908, pp. 8-9) report examining 2 samples of hydrous wool-fat. Both melted at 40° C.; one contained 0.2 per cent ash, the other only a trace.

"C. M. W. G." calls attention to the fact that hydrous lanolin is being offered on the market which is too acid to meet the requirements of the Ph. Brit. Ten grams required 0.55 c. c. of normal sodium hydroxide solution, corresponding to about 0.75 c. c. for 10 grams of the anhydrous substance, the Ph. Brit. allowing only 0.1 c. c. per 10 grams.—*Pharm. J., Lond.*, 1908, v. 80, p. 343.

ÆTHER.

Hills, Walter, reports that experiments have shown that the solid potash test of the Ph. Germ. for ather pro narcosi is too stringent. It should be replaced by the following: If caustic potash in small

fragments be kept in contact with the ether in a well-stoppered bottle protected from the light, no yellow coloration should be developed within one hour. Ether can be, and is, prepared from industrial alcohol on the commercial scale of such purity as to be indistinguishable from ether made from dutiable alcohol. It should boil at a temperature not lower than 34° C. (to exclude the presence of methyl oxide).—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 7.

The apothecaries of the Rhine Province suggest that the Ph. Germ. provide that ether be kept in well-filled, securely stoppered vials, and assert that repeated trials have shown that ether in well-filled, white, glass-stoppered vials does not decompose potassium iodide, while when repeatedly opened the presence of air readily caused decomposition.—Apoth. Ztg., Berl., 1908, v. 23, p. 179.

Cowie and Broadbent assert that it is difficult to obtain commercial ether sufficiently free from alcohol and water to be useful as a solvent for resins. They outline a number of tests and point out that determining the boiling point is perhaps the most reliable test of all.—Yearbook of Pharmacy, London, 1908, p. 465. (See also Pharm. J. Lond., 1908, v. 27, p. 366.)

Hills, Walter, suggests that under the name of "Æther Anæstheticus" an ether for anæsthetic purposes, with more stringent test, should be introduced.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 7.

Smith, Kline & French Co. (Analytical Report, 1908, p. 9) report finding 1 sample of ether containing 5 per cent of alcohol; another sample examined was of U. S. P. quality.

Blome, Walter H., reports on 4 samples of ether. One left a trace of residue, had a foreign odor and traces of aldehyde.—Proc. Michigan Pharm. Ass., 1908, p. 92.

Fitz-Randolph, R. B., reports that 24 samples were examined, 2 of which were found to differ from the requirements of the Pharmacopœia, because they contained excessive amounts of alcohol and water.—Rep. New Jersey Bd. Health, 1908, p. 224.

Philipp Röder (Jahresbericht, Wien, 1908, p. 21) outlines the requirements for ether to be used for anæsthesia, and reports on 2 samples of ether examined, 1 containing aldehyde.

An abstract presents a discussion on ways and means for obviating the inflaming or exploding of ether in racking off.—Chem. Ind., Berl., 1908, v. 31, pp. 115-116.

Roberts, John B., discusses the anæsthesia peril in American hospitals, calls attention to his former report on four deaths from general anæsthesia, and comments on the reckless manner in which ether is administrated.—Therap. Gaz., Detroit, 1908, v. 32, pp. 89-93.

An editorial discusses the drop method of administering ether, and points out the desirability of always using the simplest apparatus possible in the production of anaesthesia by inhalation.—*Ibid.*, 1908, v. 32, pp. 177–178.

Gardner, H. Bellamy, presents a brief paper, with three figures, on the administration of ether by the open method.—*Brit. M. J. Lond.*, 1908, v. 1, p. 145. (See also pp. 54, 477, 544, 1053, 1477, and v. 2, p. 359.)

Colt, G. H., contributes a note on the administration of ether by the open method, and concludes that this method may be useful in a small number of cases, chiefly in anæmic patients, and for short operations on those who tend to become cyanosed.—*Brit. M. J. Lond.*, 1908, v. ii, p. 195.

Hawk, P. B., presents a study on the influence of ether anaesthesia upon the excretion of nitrogen.—*J. Biol. Chem.*, New York, 1908, v. 4, pp. 322–352.

Nicloux, Maurice, finds that, as with chloroform, ether passes from the mother to the foetus, a larger portion being found in the foetal than in the maternal liver.—*Compt. rend. Soc. de biol. Par.*, 1908, v. 64, p. 329. He also finds ether in notable quantity in the maternal milk.—*Ibid.*, p. 347.

A number of additional references on the use of ether as an anaesthetic will be found in the *Index Medicus* and the *J. Am. M. Ass.*

ÆTHER ACETICUS.

Hills, Walter, describes a process for ethyl acetate, and asserts that as acetic ether, kept under unsuitable conditions, decomposes with rapidity, an assay process and limitation of the ethyl acetate present is desirable. The boiling point should be adjusted to correspond with the specific gravity. The rapidity of the action upon litmus, and the permissible extent of coloration with sulphuric acid, should be determined. The official test of absence of odor on evaporation should be replaced by the test of the U. S. P. for ethyl butyrate.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), *Lond.*, 1908, p. 8.

Smith, Kline & French Co. (Analytical Report, 1908, p. 9) report the following results of their examination of 2 samples of acetic ether: specific gravity at 25° C., 0.888 and 0.895, boiling point, 71° to 74° C. and 72° to 77° C., strength 90 and 94.5 per cent. The amount of readily carbonizable organic impurities was abnormal in one sample.

Philipp Röder (*Jahres-bericht*, Wien, 1908, p. 22) reports on 4 samples of acetic ether. Two of these samples did not comply with pharmacopœial requirements: the boiling point being 72–80° and 74–82°, respectively, with a perceptible residue.

ÆTHYLIS CHLORIDUM.

Buxton, Dudley W. (Brit. J. Dent. Sc.), considers ethyl chloride a valuable anæsthetic, but by no means as safe as nitrous oxide and, even in careful hands, more liable to be followed by nausea, sickness, or headache, and should not be used in a routine method when "gas" is available.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 767.

The editor of *Queries and Minor Notes* states that there have been 18 deaths from ethyl chloride, but that the number of times that it has been employed is unknown.—*J. Am. M. Ass.*, 1908, v. 51, p. 1799.

An editorial summarizes from the report of the registrar general for 1906, 8 deaths (6 male, 2 female) from the use of ethyl chloride as an anæsthetic.—*Pharm. J.*, Lond., 1908, v. 80, p. 122.

Morroway, James H., reports that he has seen 4 cases of infected finger during the preceding 10 days, following the use of a freezing agent [ethyl chloride is not mentioned], and he cautions against the use of freezing to the point of necrosis.—*J. Am. M. Ass.*, 1908, v. 50, p. 468.

Camus, L., discusses the employment of ethyl chloride for the production of general anæsthesia of short duration.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 668-671.

Camus and Nicloux report observations on the presence of ethyl chloride in the blood and in the tissues during anæsthesia with this substance.—*J. de physiol. et de pathol.*, 1908, v. 10, pp. 76-88, 665-668, 844-851.

Rosenthal and Berthelot present a note on prolonged anæsthesia by mixtures of oxygen and ethyl chloride which, in grave operations and those of long duration, has the extreme advantage of not superadding to the shock of operation, the often very great inconveniences of ether and chloroform.—*Compt. rend. Acad. d. sc. Par.* 1908, v. 146, p. 43.

Additional references on the use of ethyl chloride will be found in the *Index Medicus* and the *J. Am. M. Ass.*

ALCOHOL.

Modified regulations for marking distilled spirits, with the names of "high wines," "alcohol," or "spirits," are reprinted.—*Drug Topics*, New York, 1908, v. 23, p. 210-211.

An editorial calls attention to the recent regulations by the United States Internal Revenue Department regarding the labeling of alcohol, and points out that "pure alcohol" contains less aldehyde than the "commercial" and is free from foreign odor.—*Bull. Pharm.*, Detroit, 1908, v. 22, p. 357.

An unsigned article points out that "commercial alcohol" is the term that must now be applied to what was formerly sold as "alco-

hol." The latter term is now applicable only to distilled spirits from which the substances congeneric with ethyl alcohol have been removed.—*Am. Druggist*, New York, 1908, v. 53, p. 235.

Kebler, L. F., asserts that alcohol as supplied in barrels has never been found to comply with pharmacopœial standards relative to limits of aldehydes and other materials which reduce silver nitrate and develop a coloration with potassium hydroxide solution. If, however, alcohol is purchased in galvanized iron drums these deficiencies are readily overcome.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 775.

Bole, D. W., discusses the cost of alcohol in the leading countries of the world and pleads for a reduction of the excise tax on alcohol in Canada.—*Canad. Pharm. J.*, Toronto, 1908, v. 42, pp. 75-76.

Slator, Arthur, presents a discussion on the factors which influence the rate of alcoholic fermentation. He also points out that the fermentation by yeast juice differs in many respects from that by living yeast.—*Chem. News*, Lond., 1908, v. 98, p. 175. (See also *Pharm. J.*, Lond., 1908, v. 27, p. 400, and *J. Chem. Soc.*, Lond., 1908, v. 93, pp. 217-242.)

Harden and Young, in a contribution on the alcoholic ferment of yeast juice, discuss the functions of phosphates in the fermentation of glucose by yeast juice and conclude in part that the addition of a phosphate to a fermenting mixture of glucose and yeast juice not only produces a temporary acceleration in the rate of fermentation, but, in addition to this, an increased total fermentation.—*Proc. Roy. Soc.*, Lond., 1908, v. 80, Series B, pp. 299-311.

Trillat, A., presents a note on the formation of acetic aldehyde in alcoholic fermentation.—*Compt. rend. Acad. d. sc. Par.*, 1908, v. 146, p. 645.

Rayser and Demolon discuss the formation of ethyl aldehyde in alcoholic fermentation.—*Ibid.*, p. 783; also Trillat and Sauton, *ibid.*, p. 996.

Koerner, Theo., discusses the production of alcohol from cellulose containing materials, and reports a number of experiments with wood, sulphite cellulose, and straw.—*Ztschr. f. ang. Chem.*, 1908, v. 21, pp. 2353-2359.

Shank, Samuel H., calls attention to the work of a French chemist who has succeeded in distilling alcohol from peat, and to several other methods that have been employed for the same purpose.—*Sc. Am. Suppl.*, 1908, v. 65, p. 335.

An abstract points out that samples of ethyl alcohol made from sawdust have been sent to the Department of Agriculture from one of the big sawmills where the work is being done on a commercial scale.—*Paint, Oil and Drug Review*, Chicago, 1908, v. 46, August 5, p. 27.

Lyons. A. B., presents an alcohol table to facilitate rapid approximate determinations of alcohol by apparent specific gravity.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 906-920.

Gaillard, L., discusses the viscosity of ethyl alcohol and points out that absolute alcohol is more viscous than water and that diluted alcohol (U. S. P.) is fully twice as viscous as water.—*Biochem. Centralbl.*, 1908, v. 7, p. 59.

Andrews. Launcelot W., presents observations on the refractive indices of alcohol-water mixtures and points out that absolute alcohol, prepared by the use of calcined marble and freed from aldehydes, has the same density, the same refractive index, and the same critical temperature of solution as that which has been dried by the use of magnesium amalgam or of metallic calcium.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 353-360.

Race, Joseph, discusses the estimation of alcohol and extract in spirits by means of the refractometer and presents a table giving some of the results obtained by this method from numerous samples of distilled spirits.—*J. Soc. Chem. Ind., Lond.*, 1908, v. 27, pp. 547-548.

Frank-Kamenetzky, A., discusses the use of the refractometer for the indirect estimation of alcohol and concludes that the method is impractical.—*Chem. Ztg., Cöthen*, 1908, v. 33, p. 569.

Pearson, W. A., asserts that the determination of alcoholic strength of preparations would be more uniform if the Pharmacopœia would prescribe an official method for making the determinations.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 79.

Seoville, Wilbur L., discusses the estimation of alcohol in galenic preparations, emphasizing the fact that one must know the general character of a liquid in order to know how to treat it for this purpose.—*Drug. Circ. New York*, 1908, v. 52, pp. 6-7. (See also p. 71.)

The Bureau of Chemistry reports that the alcohol percentage of upward of 200 samples has been determined.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 432.

Beringer, George M., asserts that owing to the requirement of the national food and drugs act and many of the State laws that the alcohol content be stated on the label even of official preparations, an enormous amount of useless labor is entailed. He therefore recommends that the committee of revision have determinations made of alcohol content of official preparations and in each state the "average alcohol" contained in the finished product.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 90.

The committee on N. F. recommends that the percentage of alcohol in the preparations of the National Formulary be added in the

form of a table or a statement made in connection with each particular preparation.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 489.

An editorial comments on the article by John Uri Lloyd on the increase of alcoholic strength by precipitation and points out that a greater degree of latitude should be permitted in the required statements concerning the percentages of alcohol in pharmaceutical preparations.—*Bull. Pharm.*, Detroit, 1908, v. 22, p. 40.

Dudley, Wm. L., discusses the changes in composition in alcoholic liquids by filtration through wood charcoal.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1784-1789.

Hinkel, L. E., asserts that traces of formaldehyde are invariably produced by the oxidation of pure ethyl alcohol and that it is almost impossible to detect small quantities of methyl alcohol in ethyl alcohol by any oxidation method.—*Analyst*, London, 1908, v. 33, pp. 417-419.

Smith, Kline & French Co. (Analytical Report, 1908, p. 9) report the examination of 13 samples of alcohol. One contained only 93.98 absolute alcohol by volume and had a slight ethereal odor, 5 gave a slight residue on evaporation, which turned brown with sulphuric acid, and 1 contained aldehyde.

The Massachusetts State Board of Health found 60 samples of alcohol deficient, ranging from 44.43 to 87.61 per cent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 767.

Barnard, H. E., reports on 3 samples of alcohol having a specific gravity at 20° C., of 0.8165, 0.8170, and 0.8155, and alcohol by volume at 20° C., 93.1, 92.9, and 93.4, respectively.—*Rep. Indiana Bd. Health*, 1908, p. 339.

Lythgoe, Hermann C., reports that 325 samples of alcohol were examined during the year, 85 of which were found to be adulterated. The strength of the adulterated samples varied from 40 per cent to 85 per cent of alcohol by volume.—*Rep. Massachusetts Bd. Health*, 1908, p. 603.

Fischer, R., reports that of 112 samples of alcohol examined, all but 5 were up to the standard of the U. S. P. of 1890 (94 per cent by vol.) but none were up to the requirements of the U. S. P. VIII.—*Proc. Wisconsin Pharm. Ass.*, 1908, p. 40. (See also *Rep. Dairy & Food Com.*, Wisconsin, 1909, p. 102.)

Blome, Walter H., asserts that a majority of the samples of alcohol examined contained a trace of aldehyde. One sample sold for 95 per cent alcohol actually contained 96.1 per cent absolute alcohol.—*Proc. Michigan Pharm. Ass.*, 1908, p. 91.

Fitz-Randolph, R. B., reports that of 68 samples of alcohol examined, 20 were classed as adulterated, because the alcoholic strength was below standard. In almost all these samples the deficiency was

slight, less than 2 per cent per volume.—Rep. New Jersey Bd. Health, 1908, p. 225.

Sayre, L. E., reports that of 32 samples of alcohol examined only 3 were 94.90 per cent by volume; the others ranged from 88.57 per cent up. He quotes a manufacturer who reports 13 analyses of purchases varying from 94.6 per cent to 95.2 per cent.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 106, 107.

van Wermeskerken, J. L., reports a sample of alcohol containing but 93, instead of 95, per cent absolute alcohol.—Pharm. Weekblad., 1908, v. 45, p. 214.

Flade, Erich, reviews the more important literature of 1907 relating to alcoholism and the production and use of alcoholic beverages.—Hyg. Rundschau, 1908, v. 18, pp. 1025–1037.

Peterson, Frederick, discusses the influence of alcohol upon the public health.—New York M. J., 1908, v. 88, pp. 1205–1207.

Cushing, A. R., discusses the physiological action of alcohol.—Sc. Am. Suppl., 1908, v. 65, pp. 358–360.

Eliot, Gustavus, asserts that the judicious use of alcoholic stimulants in pneumonia and advanced stages of acute febrile diseases deserves a prominent place in therapy.—Boston M. & S. J., 1908, v. 158, p. 252.

Hare, H. A., asserts that he has shown pretty clearly that alcohol in moderate amount distinctly increases the bactericidal properties of the blood serum.—Therap. Gaz., Detroit, 1908, v. 32, p. 93.

Townsend, Charles W., discusses the abuse of alcohol in the treatment of children's diseases and asserts that, in acute lobar pneumonia particularly, children do far better with no alcohol at all, and that his experience will bear out the theory that the action of alcohol in any considerable amount is a depressing one.—Boston M. & S. J., 1908, v. 159, pp. 142–143.

A number of references on alcoholism and its relation to economic and hygienic questions will be found in: Hyg. Rundschau, 1908, v. 18.

Nazari, Vittorio, reports a number of experiments to determine the action of wine and of alcohol on frogs.—Arch. farmacol. sper. Roma, 1908, v. 7, pp. 421–446.

Aubertin and Hébert report observations on experimental alcoholic intoxication and its influence on the glycogen of the liver.—Compt. rend. Soc. de biol., Par., 1908, v. 64, pp. 999–1001.

John, M., reports observations on the blood pressure influence of alcoholic beverages of varying concentration.—Ztschr. f. exper. Path. u. Therap., 1908, v. 5, pp. 579–606.

Pringsheim, Josef, reports a number of chemical observations on the nature of the toleration to alcohol. He concludes that the elimination of alcohol as such does not vary, but that animals accustomed

to alcohol are able to destroy the same much more rapidly.—*Biochem. Ztschr., Berl.*, 1908, v. 12, pp. 142–192.

Kassowitz, Max, discusses the theoretic food value of alcohol. He concludes that alcohol is a poison and that in common with other narcotics of the fatty series, such as ether, chloroform, hydrated chloral, and paraldehyde a short period of excitement is followed by narcosis. Practical experiments to determine the food value of alcohol are not favorable to its use.—*Therap. Monatsh., Berl.*, 1908, v. 22, pp. 285–295, 355–366.

Becker, Wern. H., points out that the one poison that is most widely used and abused has as yet no recognized or generally accepted maximum dose. He reports a series of questions asked of 50 persons upward of 90 years of age regarding the nature and amount of alcohol consumed.—*Ibid.*, 1908, v. 22, pp. 444–458.

A number of additional references on the physiologic effects, and therapeutic uses of alcohol will be found in the *Index Medicus*, and the *J. Am. M. Ass.*

ALCOHOL, DENATURED.

The Bureau of Chemistry presents a report on the investigations made in connection with denatured alcohol and the possible production of this article on a scale applicable to the needs of the farmer or associations of farmers.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, v. 415.

Treasury Internal Revenue Decisions Nos. 1285 and 1286 allow the use of denatured alcohol in the manufacture of tannic acid and in the manufacture of photo enlargements and photo prints.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, p. 862.

An editorial note discusses the price of methylated spirit and commends the attitude of the United States Government in encouraging the production of manufacturing spirits by making the restrictions as light as compatible with common-sense considerations.—*Pharm. J., Lond.*, 1908, v. 27, p. 582.

Herrick, Rufus F., presents a review of the composition and uses of industrial or denatured alcohol and calls attention to the several available sources for this product.—*Tech. Quart., Bost.*, 1908, v. 21, p. 4–11.

A news note asserts that the Bureau of Chemistry is about to begin a series of practical demonstrations in the production, denaturing, and utilization of alcohol.—*Oil, Paint, and Drug Reporter*, New York, 1908, v. 74, September 28, p. 17.

The *Pharm. J., Lond.* (1908, v. 27, p. 92), gives a tabulated statement of the industrial methylated spirit used in certain manufacturing operations and for other purposes in the United Kingdom during the year ending March 31, 1905. (See also editorial, p. 100.)

ALCOHOL, METHYL.

Smith, Kline & French Co. (Analytical Report, 1908, p. 9) examined 41 samples of methyl alcohol. The strengths were between 92 and 95 per cent by volume with the exception of 3, which contained 85 per cent, 91.5 per cent, and 79 per cent.

Fischer, Richard, reports on 206 samples of flavoring extracts analyzed, of which 10 samples, all of them old stock, were found to contain wood alcohol.—Rep. Dairy & Food Com., Wisconsin, 1909, p. 106.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, pp. 15, 18) reports that of 2,931 samples collected and analyzed, which might have contained methyl alcohol, it was found in 25. These preparations were: Spirit of camphor 5, tincture of iodine 8, tincture of green soap 9, soap liniment 1, tincture of arnica 2.

Kahn, Joseph, points out that the use of methyl alcohol as an adulterant in pharmaceutical preparations for external use is now practically a matter of the past. The sale of methyl alcohol for ethyl alcohol when alcohol for external use is called for is, however, practiced by some druggists.—Proc. New York Pharm. Ass., 1908, p. 224. (See also Merck's Rep., New York, 1908, v. 17, p. 213.)

An editorial comments on the toxicity of wood alcohol and points out that the product is still used to a considerable extent by a few druggists who are either ignorant of the facts or who are willing to sacrifice the public health on the altar of greed.—Bull. Pharm., Detroit, 1908, v. 22, p. 226.

ALOE.

Beringer, George M., doubts the wisdom of the present official monograph for aloes, as the descriptions and tests given are not sufficiently definite. He suggests that a concise description of each commercial variety be given with distinguishing tests.—Am. J. Pharm., Phila., 1908, v. 80, p. 429. (See also Proc. New Jersey Pharm. Ass., 1908, p. 88.)

Hills, Walter, describes a monograph adapted to include both Barbadoes and Socotrine aloes, with the object of discouraging the use of Socotrine and Zanzibar aloes and encouraging that of the better prepared Curaçao (Barbadoes) variety, but allowing the use of both varieties in the possible event of scarcity of either.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 8.

The A. Ph. A. committee on U. S. P. questions the advisability of including under one title the several commercial varieties of aloes and points out that the characteristics of the several leading varieties are so marked that they require separate descriptions.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 526.

Frey, Otto, asserts that the official Ph. Austr. aloes is frequently scarce, and questions the desirability of retaining the tests limiting the official aloes to the varieties giving a green color reaction with nitric acid.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 631.

Freeman, W. G., discusses Barbadoes aloes.—Pharm. J., Lond., 1908, v. 27, p. 768.

Oesterle and Tisza present some observations on the chemical constitution of aloe emodin.—Arch. d. Pharm., 1908, v. 246, pp. 112–116. (See also pp. 432–436.)

Blome, Walter H., reports on one sample of Cape aloes, 69 per cent soluble in hot water. Contained 6 per cent moisture. The U. S. P. calls for 60 per cent permanently soluble in hot water.—Proc. Michigan Pharm. Ass., 1908, p. 91.

Carr and Reynolds report finding Curaçao aloes which varied from 12.6 to 27.9 per cent of aloin.—Chem. & Drug., Lond., 1908, v. 72, p. 302. (See also Pharm. J., Lond., 1908, v. 80, p. 543.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 9) report that of 2 samples of Socotrine aloes examined by them 1 contained 4.3 per cent of moisture and 52.92 per cent of insoluble matter separated on cooling. One sample of Barbadoes aloes contained 6.1 per cent of moisture, and 30.54 per cent separated on cooling. One sample of Cape aloes contained 6.05 per cent of moisture, and 41.58 per cent separated on cooling. Two samples of Curaçao aloes were examined and found to be of good quality.

Woolsey, J. F., reports on the solubility of a number of samples of aloes.—Proc. Pennsylvania Pharm. Ass., 1908, p. 87.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 24–26) reports on 12 samples of aloes, 5 of which did not comply with the Ph. Austr. VIII requirements. In 2 of the samples the ash content exceeded the 1.5 per cent limitation of the Ph. Austr. VIII, and the remaining 3 samples gave a red or a reddish-brown color with concentrated nitric acid.

Léger, E. (Compt. rend., 1908, 147, 806–808) treated a hydrochloric acid solution of aloes (Cape or Uganda aloes) with potassium chlorate and obtained a compound which he styled *aloesol tetrachloride* $C_{11}H_4Cl_4O_3$.—J. Soc. Chem. Ind., Lond., 1908, v. 27, p. 1175.

ALOINUM.

Hills, Walter, believes that as commercial aloin is always obtained from Curaçao aloes, the official drug should be limited to that variety. The characters and tests should be corrected and amplified. A monograph is given to replace the present one.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, pp. 8–9.

Lehn & Fink (Annual Report for 1908, p. 10-11) report the examination of 4 samples of aloin of domestic manufacture which failed to meet the test of the U. S. P., there being a small amount of ash. They suggest that the official requirements as to ash should be changed to read Aloin, when ignited, is consumed without leaving more than, say, 0.5 per cent of ash. Its aqueous solution is neutral or slightly acid to delicate blue litmus paper.

Smith, Kline & French Co. (Analytical Report, 1908, p. 9) report that of 2 samples of aloin examined by them 1 was soluble in 150 parts of water, 30 parts of alcohol, and 130 parts of acetone. They assert that aloin answering the U. S. P. tests for solubility seems to be impossible to obtain commercially.

Blome, Walter H., asserts that none of the commercial samples of aloin examined responded consistently to U. S. P. tests for solubility. Since the appearance of the present Pharmacopœia the price of this article has about doubled.—*Proc. Michigan Pharm. Ass.*, 1908, p. 91.

Pearson, W. A., points out that one manufacturer has marked his aloin "U. S. P. quality commercially unobtainable."—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 76.

Léger, E., reports observations on the transformation of barbaloin into an isomeric compound.—*J. de pharm. et de chim.*, Par., 1908, v. 27, pp. 5-10.

Dougall, J. Park, asserts that aloin has not given him satisfaction in cases of Bright's disease, and he has therefore discarded it.—*Tr. Nat. Elect. M. Ass.*, 1908, v. 36, p. 142.

ALTHÆA.

Farwell, A. O., points out that the U. S. P. defines althæa as of the second year's growth and deprived of the periderm. They have received samples from the New York market of a lot that is very woody and unpeeled. The roots were sliced diagonally and transversely, probably to disguise, so far as possible, the poor quality of the drug.—*Merck's Rep.*, New York, 1908, v. 17, p. 34.

ALUMEN.

Hills, Walter, suggests that both potassium and ammonium alum should be retained. Alum should yield a clear solution with water.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 9.

Lehn & Fink (Annual Report for 1908, p. 11) think that the test for ammonia in alum should be retained in the U. S. P. The official salt normally contains not a trace of ammonia, and the presence of the latter indicates ammonia alum.

Heusler, P. I., reports on several samples of alum examined; all but one corresponded to the U. S. P. requirements; this one contained iron.—*Proc. Maryland Pharm. Ass.*, 1908, p. 33.

Blome, Walter H., reports that the solubility of some of the samples of aluminum and potassium sulphate is very low.—*Proc. Michigan Pharm. Ass.*, 1908, p. 91.

Marc, R., calls attention to the contaminations occurring in so-called pure alum and reports observations on a variety of samples of different origin.—*Ztschr. f. anorg. Chem.*, 1908, v. 60, pp. 193–207, 459.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 4) observed arsenical contamination of from 6 to 10 parts per million in 4 samples of ammonium and 1 sample of potassium alum. In no other case did the lead amount to more than 20 parts per million. Other objectionable metallic impurities (except iron) were either entirely absent or occurred in negligible quantity. Ammonium alum often contains an appreciable amount of the potassium salt.

Gooch and Osborne discuss the reaction between potassium-aluminium sulphate and a bromide-bromate mixture and report a number of experiments made to show the completeness of the precipitation.—*Chem. News, Lond.*, 1908, v. 97, pp. 102–104.

Philipp Röder (Jahresbericht, Wien, 1908, p. 26) reports that out of 4 samples of alum examined 2 contained excessive amounts of iron.

ALUMEN EXSICCATUM.

Merck, E., points out that exsiccated alum always contains a small but not negligible portion that is insoluble in water and that, in the directions that its aqueous solution should respond to the reactions and tests for alumen, cognizance should be taken of the fact that approximately 0.65 gm. of exsiccated alum correspond to 1 gm. of alum.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, p. 340.

Philipp Röder (Jahresbericht, Wien, 1908, p. 26) reports that only 2 of the 6 samples of exsiccated alum examined were found to comply with the Ph. Austr. VIII requirements. The remaining 4 were either insufficiently soluble in cold water or contained an excessive amount of iron.

ALUMINI HYDROXIDUM.

Merck, E., points out that the Ph. Helv. IV test for calcium in aluminum hydroxide is not practical, as calcium oxalate does not precipitate from an acid chloride solution.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, p. 340.

ALUMINI SULPHAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 9) report that of the 2 samples of aluminum sulphate examined by them 1 contained an excess of iron.

Merck, E., objects to the stringent requirement for the absence of iron made by the Ph. Helv. IV and points out that aluminum sulphate invariably contains traces of iron.—Schweiz. Wchnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 340.

Philipp Röder (Jahresbericht, Wien, 1908, p. 27) reports on 4 samples of supposedly pure aluminum sulphate, all of which contained iron.

AMONII BENZOAS.

Hills, Walter, states that the proportion of lead present in ammonium benzoate should not exceed 10 parts per million.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 9.

Smith, Kline & French Co. (Analytical Report, 1908, p. 10) report 1 sample of ammonium benzoate examined: fusing point 194° C.; a trace of iron present.

AMMONII BROMIDUM.

Hills, Walter, states that the proportion of lead present in ammonium bromide should not exceed 10 parts per million.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 9.

Kebler, L. F., reports that a sample of ammonium bromide gave a turbid solution.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 775.

Blome, Walter H., reports on 2 samples of ammonium bromide which were satisfactory.—Proc. Michigan Pharm. Ass., 1908, p. 91.

Philipp Röder (Jahresbericht, Wien, 1908, p. 29) found 1 sample of ammonium bromide contaminated with sulphates.

AMMONII CARBONAS.

Hills, Walter, asserts that the titration value of ammonium carbonate is too high. When tested for lead it should not exceed 5 parts per million.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 9. (See also Chem. & Drug., Lond., 1908, v. 72, p. 797.)

Coblentz, Virgil, reports 2 samples of ammonium carbonate below U. S. P. standard, being 94.02 per cent pure in place of 97 per cent required by the purity rubric.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 761.

Harvey, T. F., reports that the official requirement of 31.58 per cent NH_3 is too stringent; manufacturers generally appear unable to

comply with it. Many samples of uneffloresced carbonate have shown 29 to 30 per cent NH_3 , and 30 per cent would appear to be a more reasonable demand.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Smith, Kline & French Co. (Analytical Report, 1908, p. 10) report examining 1 sample of ammonium carbonate, the strength of which was 98.8 per cent.

Kebler, L. F., reports on 2 samples of ammonium carbonate titrating 61.7 and 70.32 per cent purity, respectively.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 775.

AMMONII CHLORIDUM.

Hill, Charles Alexander, suggests as a standard for ammonium chloride, lead 5 parts per million, arsenic 2 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797. (See also Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 10.)

Hinrichsen, F. Willy, discusses the production of pure ammonium chloride for special chemical purposes.—Ztschr. f. anorg. Chem., 1908, v. 58, pp. 59–64.

Johnson, F. M. G., discusses the vapor pressure of dry ammonium chloride.—Ztschr. f. physik. Chem., 1908, v. 61, pp. 457–463.

van Laar, J. J., discusses the vapor pressure of dry and ordinary ammonium chloride.—*Ibid.*, 1908, v. 62, pp. 194–198.

Kebler, L. F., reports on 2 samples of ammonium chloride which contained iron.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 775.

Smith, Kline & French Co. (Analytical Report, 1908, p. 10) report the examination of 8 samples of ammonium chloride. Two contained nonvolatile impurities and three contained sulphates. One was found to contain a large proportion of sodium chloride. One sample tested 99.9 per cent.

Patch, E. L., found two lots of ammonium chloride excessively dirty and unfit for use.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 767.

Blome, Walter H., reports on 6 samples of ammonium chloride. Four satisfactory. One contained 1.2 per cent calcium calculated as CaCl_2 , the other 2.34 per cent ammonium sulphate.—Proc. Michigan Pharm. Ass., 1908, p. 91.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 4) point out that ammonium chloride is liable to contain traces of arsenic. Three samples examined by them showed presence of 8, 10, and 12 parts per million, respectively. The majority of the samples examined during the year contained less than 20 parts of lead per million, although in one or two it rose as high as 35 parts.

AMMONII IODIDUM.

Seidell, A., points out that the U. S. P. requires that ammonium iodide dissolve in 0.6 parts of water and in 9.0 parts of alcohol. His determinations indicate that it dissolves in 0.55 parts of water and in 2.86 parts of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 529.

AMMONII SALICYLAS.

Seidell, A., points out that ammonium salicylate dissolves in 0.909 parts of water and in 2.333 parts of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 529.

Engelhardt and Jones report that of 7 samples of synthetic ammonium salicylate examined, 5 contained phenol.—*Ibid.*, 1908, v. 56, p. 868.

Scoville, W. L., asserts that ammonium salicylate is frequently dark colored.—*Ibid.*, 1908, v. 56, p. 767.

AMMONII VALERAS.

Seidell, A., points out that the description of ammonium valerate, as it now stands, does not show its atomic composition or give any purity requirement. He thinks that the compound of ammonium and valeric acid that is required should be designated.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 528.

Lyons, A. B., points out that ammonium valerate, as usually found on the market, is somewhat variable in composition. He believes it advisable to accept this variability rather than expect the article to conform to any particular molecular formula.—*Ibid.*, 1908, v. 56, p. 530.

Smith, Kline & French Co. (Analytical Report, 1908, p. 10) report that the three lots of ammonium valerate examined by them were of satisfactory quality.

Sayre, L. E., reports that one sample of elixir of ammonium valerianate (N. F.) examined was deficient in alcohol, a second was of standard quality.—*Bull. Kansas Bd. Health*, 1908, v. 4, pp. 153, 184.

AMYGDALA AMARA.

Feist, K., presents some observations on the decomposition of amygdalin under the influence of emulsin.—*Arch. d. Pharm.*, 1908, v. 246, pp. 206–209.

Rosenthaler, L., criticizes the contribution by Feist.—*Ibid.*, pp. 365–366.

Feist, K., replies.—*Ibid.*, pp. 509–510.

Rosenthaler, L., presents some additional arguments.—*Ibid.*, p. 710. (See also *D.-A. Apoth.-Ztg.*, N. Y., 1908–9, v. 29, p. 21.)

Alcock, F. H., has determined the quality of the powdered almonds, which is used extensively by the baker and confectioner for his macaroons, by the amount of N obtained by the Kjeldahl's process, constants for which, both sweet and bitter (3.33 per cent and 3.44 per cent), have previously been before the conference.—*Pharm. J., Lond., 1908, v. 27, p. 354.*

Cook, E. Fullerton, recommends a modification in the method for making sirup of almond so as to increase the sugar content of the official sirup.—*Proc. Am. Pharm. Ass., 1908, v. 56, p. 957.*

Niece, Frederic E., asserts that bitter almond water and dilute solutions of hydrocyanic acid are both liable to decomposition due to oxygen and exposure to light and heat.—*Ibid., v. 56, p. 1052.*

Philipp Röder (*Jahresbericht, Wien, 1908, p. 31*) reports on 5 samples of bitter almond water which were found to contain 1.009 to 1.172 per cent of total hydrocyanic acid and from 0.135 to 0.325 per cent of free hydrocyanic acid.

AMYLIS NITRIS.

Moller, H. J., reports an amyl nitrite explosion and points out the need for care in handling amyl nitrite in hermetically sealed tubes.—*Arch. f. Pharm. og Chem. Copenhagen, 1908, v. 15, pp. 145-146.*

Slavu, Gr., discusses the influence of amyl nitrite on the red blood globules.—*Compt. rend. Acad. d. sc. Par. 1908, v. 147, p. 148.*

Reissmann, C., controverts Leonard Williams's condemnation of the use of amyl nitrite in hæmoptysis due to pulmonary hæmorrhage (*Clin. J., Oct. 2, 1907*).—*Lancet, 1908, v. 174, p. 130.*

Williams replies (*Ibid., p. 189*) that his warning was based on observation and experience. (See also *Ibid., p. 427, 265; Ibid., v. 175, pp. 419, 587, 1036.*)

AMYLUM.

Moerk, Frank X., points out that the U. S. P. requires that starch should show not less than 95 per cent hydrolizable carbohydrate; no process is given.—*Proc. Am. Pharm. Ass., 1908, v. 56, p. 898.*

Hills, Walter, believes that all three varieties of starch should remain official as at present. Not more than the slightest reaction to litmus paper should be allowed. An ash limit is not necessary.—*Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 10.*

Gathercoal, E. N., reports the examination of a number of commercial food starches and flours for their water content.—*Proc. Am. Pharm. Ass., 1908, v. 56, pp. 887-890.*

Philipp Röder (Jahresbericht. Wien. 1908, p. 30), reports on 3 samples of starch which were found to be: (1) Wheat starch, (2) a mixture of wheat starch with cornstarch, (3) rice starch.

Ewers, Erich, discusses the polarimetric determination of starch and reports a number of experiments to show that accurate results can easily be obtained.—Ztschr. f. öffentl. Chem., 1908, v. 14, pp. 8–19.

The same presents a further elaboration of the method with reports of experiments.—*Ibid.*, 1908, v. 14, pp. 150–157.

Frank-Kamenetzky, A., discusses the estimation of starch in corn and outlines a new method.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 157–159, 175–176.

Herman, M., comments on the use of polarized light in the detection of starches.—Bull. Soc. chim. Belg., 1908, v. 22, pp. 340–342.

Gatin-Gruzewska, Z., makes a contribution to the study of the composition of starch grain.—Compt. rend. Soc. de biol. Par., 1908, v. 64, p. 168. (Abstr. also in Compt. rend. Acad. d. Sc. Par., 1908, v. 146, p. 540.)

Gatin-Gruzewska, Mayer and Schaeffer report on the ultramicroscopic structure of starches and their constituents, with a method for separating the latter.—*Ibid.*, v. 64, p. 599.

Fourd, E., presents a note on the colloidal properties of starch and on the existence of a perfect solution of this substance.—Compt. rend. Acad. d. sc. Par., 1908, v. 146, pp. 285–287, 978–981, v. 147, pp. 813–816. (See also Maquenne, L., on the properties of pure starch. *Ibid.*, pp. 317, 542.)

A number of additional references on the chemistry of starch will be found in Chem. Abstr. Am. Chem. Soc.

ANISUM.

Spaeth, Eduard, outlines the requirements that should be made for anise and describes the structure and composition of the genuine drug. He also enumerates some of the more common adulterants and outlines methods for their detection.—Pharm. Zentralh., 1908, v. 49, pp. 543–544.

Rusby, H. H., found 35 per cent stems and other seeds in 1 sample of anise seed, and 28 per cent of stones, cut and sifted to resemble anise, in another lot. One lot of powdered anise contained 20 per cent of sand.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 767.

Hills, Walter, suggests that the use of the lens in the examination of these fruits should be directed in order to detect added mineral matter. The use of an ash limit for this purpose appears undesirable, as fruits very rich in oil were found to yield a very high percentage of ash.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 10.

Woolsey, J. F., reports that the ash from powdered anise seeds usually varies from 12 to 17 per cent.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Havenhill, L. D., asserts that the ash content of anise is about 6.0 per cent, yet the powdered anise of the market, and often the whole drug, yields from 15 to 30.0 per cent of ash.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 932.

Harvey, T. F., reports that 12 samples yielded nonvolatile ether extract 18.8 to 23.7 per cent, while the ash ranged from 8 to 12.4 per cent. The ash of this drug is liable to be much higher unless the fruits are carefully cleaned.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Schimmel & Co. (Semi-Annual Rep., April, 1908, p. 16) mention that in the anise market at Alexejewka a large admixture of coriander seed was observed in many cases with the anise offered by the peasants. Some parcels were found to contain as much as 30 per cent of coriander.

ANTHEMIS.

Beringer, George M., outlines a formula for fluid glycerate of anthemis, but does not consider it entirely satisfactory.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 985.

ANTIMONII ET POTASSII TARTRAS.

Hills, Walter, believes that the formula should be halved. The test with gallic acid should be omitted, and also those with tannic acid, alkalies, and alkaline carbonates, unless their utility can be shown. Alcock's modification of the official test, if confirmed, should be adopted.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 11.

Smith, Kline & French Co. (Analytical Report, 1908, p. 11) report that the pure salt content of 8 samples of antimony and potassium tartrate examined by them ranged from 94.3 to 99.1 per cent. One sample contained a trace of potassium bitartrate.

Woolsey, J. F., reports that the composition of tartar emetic is liable to vary. An assay based on the U. S. P. method of valuation will show at times an excess or deficiency of antimony. One lot assaying 91.48 per cent of the salt was rejected.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 4) report that several of the samples of antimony and potassium tartrate examined by them required more iodine solution than the Pharmacopœia allows. Very few were free from acidity.

Kolb and Formhals discuss the titrimetric estimation of antimony.—Ztschr. f. anorg. Chem., 1908, v. 58, pp. 202–208.

Schamelhout, A., points out that wine of antimony of the Ph. Belg. has been slightly reduced in strength so as to make it conform to the Brussels protocol requirements.—Bull. Soc. roy. de pharm. Brux., 1908, v. 52, p. 168.

Smith, Eustace, under the caption a plea for a neglected remedy, discusses the therapeutic applications of antimony, which, he declares, in catarrhal states of the mucous membrane has never been dislodged from its eminence by later substitutes.—Brit. M. J., Lond. 1908, v. 1, p. 488.

ANTIPYRINA.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 28) report that the numerous samples of phenazone which they have examined melted between 111° and 115° C. They have not met with any giving the official figures.

Philipp Röder (Jahresbericht, Wien, 1908, p. 30) reports on 5 samples of antipyrine which were found to vary somewhat in melting point, the lowest being $110-111^{\circ}$ while the highest was $111-113^{\circ}$.

Thales, P. K., reports a case of poisoning by antipyrine.—Index Medicus, 1909, v. 7, p. 184.

Engelhardt, H., in a paper on antipyretics discusses the chemistry of antipyrine and outlines the relation of this chemical to others of the same group.—Merck's Rep., N. Y., 1908, v. 17, p. 231.

Senta, S., discusses the antiseptic and antipyretic action of antipyrine and reports a number of experiments showing the influence of antipyrine on the absorption of O_2 and the liberation of CO_2 by different tissues.—Arch. internat. de pharmacod. et de therap., 1908, v. 18, pp. 227-229.

APOCYNUM.

Tunmann, O., describes and illustrates the pharmacologic and microscopic characteristics of *Apocynum cannabinum*.—Pharm. Zentralh., 1908, v. 49, pp. 299-306.

Finnemore, Horace, discusses the constituents of Canadian hemp, the isolation of apocynin, its phenolic derivatives, and its constituents; also presents a contribution on a new synthesis of apocynin.—J. Chem. Soc., Lond., 1908, v. 93, pp. 1515-1524.

Beringer, George M., believes that the official definition for apocynum is entirely too broad and would admit the common adulterant, the rhizome of *Apocynum androsaemifolium*, which is a closely allied species. He believes that the definition should be restricted to the rhizome of *Apocynum cannabinum*, or to such additional species or varieties or hybrids as can be named.—Am. J. Pharm., Phila., 1908, v. 80, p. 430. (See also Proc. New Jersey Pharm. Ass., 1908, p. 89, and Proc. Am. Pharm. Ass., 1908, v. 56, p. 526.)

Sayre, L. E., points out that the menstruum for fluid extract of apocynum was changed from 61 per cent alcohol and 10 per cent glycerin in U. S. P. 1890, to 51 per cent alcohol and 10 per cent glycerin in the U. S. P. VIII.—Merck's Rep., N. Y., 1908, v. 17, p. 4.

Beringer, George M., outlines a formula for fluid glycerate of apocynum, which he believes to be an excellent form for the exhibition of its action.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 986.

Körndorfer, Aug., asserts that *Apocynum cannabinum* deserves special mention, because of its marked influence over the dropsical conditions developed in many heart cases.—Eclectic Rev., 1908, v. 11, p. 25.

An abstract from Eclectic Medical Gleaner asserts that the specific action of apocynum is upon the blood vessels and heart, restoring their natural functions when the former are in that condition that readily allows of transudation of serum into the tissues.—*Ibid.*, 1908, v. 11, p. 53.

APOMORPHINÆ HYDROCHLORIDUM.

Hills, Walter, suggests that the description should read: The salt, $C_{17}H_{17}NO_2 \cdot HCl$, obtained by heating morphine with water and hydrochloric acid under pressure. Characters and tests are submitted.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 11.

Dott, D. B., gives an account of some experiments undertaken to ascertain the correct chemical formula of apomorphine hydrochloride.—Pharm. J., Lond., 1908, v. 27, p. 801.

Schmidt, Ernst, reports a number of observations to determine the water content of apomorphine hydrochloride. Eight samples of different origin lost from 3.61 to 3.95 per cent on drying in an exsiccator at 100° C.—Apoth. Ztg., Berl., 1908, v. 23, pp. 657–658.

Knorr and Raabe discuss the relations of pseudapocodeine to apomorphine and confirm the assumption made by Knorr and Roth that pseudapocodeine bears the same relation to apomorphine that codeine does to morphine.—Ber. d. deutsch. chem. Gesellsch., Berl., 1908, v. 41, III, pp. 3050–3054.

Bond, Robert I., states that he has not seen any mention of the use of apomorphine in the treatment of eclampsia, though he has used it for this purpose with uniformly good results.—J. Am. M. Ass., 1908, v. 50, p. 1622.

Rosebrugh, A. M. (Canad. Pract. Oct.), thinks that the discovery of the use of apomorphine as a hypnotic will mark a new era in the management of cases of acute alcoholism and delirium tremens.—Lancet, 1908, v. 175, p. 1316.

AQUÆ.

Hills. Walter, reports that after numerous experiments it was agreed that the processes for making aromatic waters should remain as at present, as the products are of far more agreeable flavor than those made from the corresponding volatile oils.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 11.

Andresen, Siegfried, points out that the Ph. Dan. VII includes a general article on aromatic waters in which the requirements are outlined and the several classes of aromatic waters more fully described.—Apoth. Ztg., Berl., 1908, v. 23, p. 78.

Warnecke, G., discusses the desirability of preparing concentrated alcohol containing solutions for the extemporaneous making of medicated waters that are but infrequently called for. The presence of approximately 1 per cent of alcohol in the finished preparation he believes would be unobjectionable.—*Ibid.*, 1908, v. 23, p. 659.

AQUA.

Romijn, G., discusses the systematic examination of potable water, the tests to be applied and the reagents to be used.—Pharm. Weekblad, 1908, v. 45, pp. 402–412.

Lambotte, A., discusses the detection of ammonia in potable water.—J. de pharm. d'Anvers, 1908, v. 64, pp. 218–225.

Ronchèse, A., discusses the determination of ammonia in water by means of formaldehyde.—J. de pharm. et de Chim., Par., 1908, v. 27, pp. 231–235.

Rouchy, Ch., discusses the influence of microbes on the composition of water.—*Ibid.*, Par., 1908, v. 27, pp. 374–380.

Hempel, Walther, discusses the water supply of cities from a chemical point of view and concludes that deep wells offer perhaps the most desirable source of drinking water.—Pharm. Zentralh., 1908, v. 49, pp. 752–754.

AQUA AMMONIÆ.

Davies, John Hughes, reviews the history and reports practical observations on the formation and decomposition of ammonia by means of the silent discharge of high electrical currents.—Ztschr. f. physik. Chem., 1908, v. 64, pp. 657–685.

Woltereck, H. C., contributes a brief note on the production of ammonia from atmospheric nitrogen by means of heat.—Pharm. J., Lond., 1908, v. 27, p. 300.

Frerichs, F. W., presents a communication on the purity of commercial liquified ammonia gas and apparatus for testing it.—Trans. Am. Inst. Chem. Eng., 1908, v. 1, pp. 133–150.

Kebler, L. F., reports on 6 samples of ammonium hydroxide, 4 of which contained pyridine; 5, traces of nonvolatile matter, on steam

bath; and 2, carbonates in excess.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 775.

Barnard, H. E., reports a study on the deterioration of ammonia water and concludes that this article, if kept in tightly stoppered bottles, no matter whether exposed to the light or not, deteriorates but slightly upon standing. His figures also show that ammonia water kept in a close-corked bottle does not deteriorate rapidly. If, however, the container is not stoppered rapid deterioration takes place, and in a short time, and the solution becomes of no value for medicinal purposes. Pharm. Rev., Milwaukee, 1908, v. 26, pp. 321.

An editorial calls attention to the work done by H. E. Barnard, on the keeping qualities of ammonia water, and points out that heat is one of the most important factors in causing loss of dissolved gas.—Drug Topics, New York, 1908, v. 23, p. 354.

Bachman, Gustav, reports that the samples of ammonia water examined ranged from 5.48 to 8.60 per cent.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Arny, H. V., reports on 8 samples of ammonia water examined; 1 was of pharmacopœial strength, while the others varied from 5.9 per cent to 8.8 per cent.—Proc. Ohio Pharm. Ass., 1908, p. 89. (See also Midland Druggist, 1908, v. 10, p. 15.)

Barnard, H. E., reports on 91 samples analyzed; 43 were above standard and 48 below, a percentage of adulteration of 53 per cent. He also discusses the question of deterioration.—Proc. Indiana Pharm. Ass., 1908, pp. 77-82. (See also Rep. Indiana Bd. Health, 1908, pp. 316-317.)

Fischer, R., reports that of 72 samples of ammonia water analyzed 16, or 22 per cent of the total, contained between 9 and 11 per cent of ammonia gas. Four samples purchased for ammonia water contained between 21.5 and 27.7 per cent of ammonia gas, which is as much a violation of law as though they were deficient in their active principle.—Proc. Wisconsin Pharm. Ass., 1908, p. 41. (See also Rep. Dairy & Food Com., Wisconsin, 1909, p. 103.)

Philipp Röder (Jahresbericht, Wien, 1908, p. 29) reports that of 3 samples of ammonia examined 1 was found to be contaminated with empyreumatic materials.

van Wermeskerken, J. L., reports several samples of ammonia water containing from 9 to 9.2 per cent of NH_4OH .—Pharm. Weekblad., 1908, v. 45, p. 212.

AQUA AMMONIÆ FORTIOR.

Hills, Walter, in addition to the tests already noted, suggests a further test for lead.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 27.

Harvey, T. F., reports that the residue on a water-bath lies between 0.00 and 0.05 per cent in freshly bottled samples.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Scoville, W. L., asserts that the stronger water of ammonia frequently contains traces of pyridine.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 767.

Smith, Kline & French Co. (Analytical Report, 1908, p. 11) report that of 69 lots of stronger ammonia water examined by them 7 were inferior on account of color, iron, excess of residue and objectionable odor after neutralization.

Potter, Hubert F., reports 16 samples of stronger ammonia water varying from 47.4 to 89.6 per cent U. S. P. strength.—Rep. Dairy Com., Connecticut, 1908, p. 86.

AQUA AURANTII FLORUM.

Hills, Walter, believes that the word "yellowish" should be substituted for "greenish-yellow;" the words "and copper" should be inserted after the word "lead;" the distilled water is largely imported in coppers and may become contaminated with that metal.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 11.

Greenawalt, William C., discusses the use of orange flower water as a perfume and a flavor. As a flavor he has found it to be particularly useful in connection with such preparations as glycerite of pepsin, N. F.—Apothecary, Boston, 1908, v. 5, p. 428.

Cook, E. Fullerton, points out that orange flower water usually contains an abundance of micro-organisms, and that care must be taken to obtain a water free from such micro-organisms if the sirup is to be even relatively permanent.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 958.

AQUA DESTILLATA.

Hills, Walter, believes that determinations of the solid residue yielded by distilled water, freshly prepared and kept under varying conditions, having given quantities varying from 0.000 gm. to 0.004 gm. from 100 cc., 0.005 gm. from 100 cc. would be a reasonable limit to fix.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 4.

Duncan, R. A., reports that one sample of distilled water examined was unfit for use.—Rep. Hawaii Bd. Health, 1908, p. 94.

AQUA HYDROGENII DIOXIDI.

Fischer and Ringe present observations on the formation of hydrogen dioxide and discuss its possible production by mechanical means. They conclude that hydrogen dioxide can be formed in an analogous

method, employed in the formation of ozone, providing care is exercised to immediately cool the hydrogen dioxide as it is formed. They illustrate methods for conducting the process in an experimental way.—*Ber. d. deutsch. chem. Gesellsch., Berl.*, 1908, v. 41, pp. 945–954.

Löb, Walther, discusses the paper by Fischer and Ringe and calls attention to some earlier publications on the same subject.—*Ibid.*, 1908, v. 41, II, pp. 1517–1518.

The report of the Bureau of Chemistry points out that the available hydrogen peroxide, while complying with the standard prescribed by the U. S. P. which is not intended to supply a product of absolute purity, contained acetanilide, which may interfere with chemical analysis, one sample also contained caffeine.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 431.

Gane and Webster discuss the use of acetanilide as a preservative of hydrogen dioxide and assert that Henry Maclagan first discovered the preservative action in 1892, and that for many years after that date the method of preservation was a valuable trade secret.—*Drug Topics*, New York, 1908, v. 23, p. 146.

Coblentz and May discuss the U. S. P. tests for hydrogen peroxide and some of the criticisms that have been made on the official requirements. They review the several suggestions made and conclude that they can see no reason for recommending any change in the present pharmacopœial assay method.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 202.

White, Edmund, describes the several commercial grades of hydrogen peroxide, enumerates the tests to which it should comply and the contaminations which are usually found.—*Pharm. J., Lond.*, 1908, v. 26, p. 737.

An unsigned article asserts that all hydrogen peroxides of the market with a stated strength of 3 per cent are not necessarily of the same class, even if they do contain the stated amount of H_2O_2 . Many of the preparations sold at unusually low prices are fit only for bleaching purposes.—*New Idea*, 1908, v. 30, p. 82.

Spear, E. B., reports observations on the catalytic decomposition of hydrogen peroxide under high pressure of oxygen, and describes and illustrates a method whereby rates of reaction may be measured under high gas pressure.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 195–209.

Harvey, T. F., reports that for the assay of this solution titration with permanganate, after very liberal dilution with water, in the presence of sulphuric acid, is perhaps the best method. Absence of oxalate must be insured.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 904.

Kebler, L. F., reports on 95 samples of hydrogen dioxide, including all of the available brands. Most of these samples complied with the pharmacopœial standards, except that practically all contained

acetanilide as a preservative.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Lehn & Fink (Annual Report for 1908, p. 11) point out that steps should be taken to determine whether the practice of using acetanilide, as a preservative in solution of hydrogen dioxide, should be allowed.

Fitz-Randolph, R. B., reports that of 42 samples examined 5 were found to be deficient in hydrogen dioxide. The deviation from the standard was slight, in all except one sample.—Rep. New Jersey Bd. Health, 1908, p. 225.

Fischer, R., reports that almost all of the 100 samples analyzed were of full strength, the lowest containing 2.7 per cent of hydrogen dioxide, and the highest contained 3.78 per cent.—Proc. Wisconsin Pharm. Ass., 1908, p. 41. (See also Rep. Dairy & Food Com. Wisconsin, 1909, p. 102.)

Dunlap, Renick W., reports on 3 samples of hydrogen peroxide, 2 adulterated and 1 pure.—Rep. Dairy & Food Com. Ohio, 1909, p. 52.

Lythgoe, Hermann C., reports that of the 24 samples examined, 7 were found to be less than the pharmacopœial standard. Several samples were found to contain acetanilide, the presence of which, in most cases, was marked upon the labels. He cites specific instances of samples from different manufacturers which were below standard.—Rep. Massachusetts Bd. Health, 1908, p. 604.

Barnard, H. E., reports on 1 sample of peroxide of hydrogen which had an excess of acid.—Rep. Indiana Bd. Health, 1908, p. 340.

van der Harst, J. C., reports a sample of hydrogen dioxide containing but 1.9 per cent of H_2O_2 , in place of upward of 3 per cent required by the Ph. Ndl. IV.—Pharm. Weekblad., 1908, v. 45, p. 456.

"C. C." [C. Crinon?] notes that the solution of hydrogen peroxide, Ph. Fr. V is of 12 volume strength, instead of 10.—Répert. d. pharm. Par. 1908, v. 20, p. 539.

ARGENTI NITRAS.

Lang and Woodhouse present a contribution on the volumetric estimation of silver, and describe, with illustrations, an apparatus used to determine silver by standard sodium chloride.—J. Chem. Soc., Lond., 1908, v. 93, pp. 1037-1040.

Harman, Bishop, thinks the addition of 15 per cent of pure glycerin to 0.5, 1, or 2 per cent solutions of silver nitrate in distilled water increases its penetrative action and makes the application less painful.—Lancet, 1908, v. 175, p. 561.

Weinstein, Harris, discusses the use of silver nitrate in gastric diseases and points out that sole reliance should not be placed upon this drug, for it will unqualifiedly spell failure every time unless other indicated therapeutical measures be employed. He gives it

in doses of one-quarter to one-half of a grain three times a day on an empty stomach.—Merck's Rep., N. Y., 1908, v. 10, pp. 41-42.

Ribadeau-Dumas and Debré report observations on the action of silver nitrate and other salts of silver on the blood and circulatory organs.—Compt. rend. Soc. de biol. Par., 1908, v. 65, pp. 34-37.

ARGENTI NITRAS FUSUS.

"H. M." calls attention to a novel holder for caustic sticks, particularly of silver nitrate. The substance is fused or crystallized around a wire of suitable size which forms a support and handle.—Pharm. Zentralh., 1908, v. 49, p. 797.

ARGENTI OXIDUM.

The therapeutic committee of the British Medical Association suggests that silver oxide be deleted from the Ph. Brit., as it is not sufficiently used to merit its retention.—Pharm. J. Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 319.)

Hills, Walter, believes that the method of preparation should read "by precipitation of silver nitrate with a caustic alkali."—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 12.

ARNICA.

Farwell, A. O., asserts that under the name arnica flowers they have been offered, in large quantities, the heads of *Lypachys columnaris*, T. & G., which is one of the sunflower tribe of the aster family, and does not in any way resemble arnica flowers. It is common on the western plains. True arnica flowers are imported from Europe.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Rusby, H. H., asserts that 3 lots of spurious arnica flowers, evidently the flowers of *Inula britannica*, have been offered for import.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 792.

The New York State board of pharmacy (Eighth Annual Report, 1908, pp. 15, 18) found 2 samples of tincture of arnica which contained methyl alcohol.

Sayre, L. E., reports that of 8 samples of tincture of arnica examined, one was illegal.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 68, 153, 155, 181, 183, 248, 294, 297.

Homsher, R. D., asserts that arnica when used topically is decidedly poisonous to some individuals, and when used internally is poisonous to all. Some people are so idiosyncratic to arnica that whenever it is applied it affects them worse, apparently, than poison oak or ivy. One such case came under his care.—Tr. Nat. Eclect. M. Ass., 1908, v. 36, p. 86.

ARSENI IODIDUM.

Hills, Walter, suggests that the words "in crystalline masses" should be deleted, as arsenium iodide in this form is of varying composition.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 12.

Smith, Kline & French Co. (Analytical Report, 1908, p. 11) report that the one sample of arsenous iodide examined by them was below U. S. P. requirements in strength.

ARSENI TRIOXIDUM.

Sharp, Gordon, contributes two interesting papers on the history and romance of arsenic.—Pharm. J. Lond., 1908, v. 27, pp. 186-187, 232-234.

Schelenz, H., calls attention to a recent publication on the use of arsenic in medicine and asserts that the statement that arsenic has only been in use in medicine for 200 years is misleading, as sulphides of arsenic were known to and used by Hippocrates.—Pharm., Zentralh., 1908, v. 49, p. 618.

A news note asserts that C. Camsell, an expert of the Dominion Government connected with the geological survey of the Healey mine district of British Columbia, reports a surprising abundance of arsenic in the ore of that camp, and believes the time may come when this arsenical ore will attract attention.—Canad. Pharm. J. Toronto, 1908, v. 42, p. 127.

Smith, Kline & French Co. (Analytical Report, 1908, p. 11) report that of 7 samples of arsenic trioxide examined by them 3 were unsatisfactory on account of inferior physical appearance, low strength, and insolubility in the proper amount of ammonia water.

Dohme and Engelhardt rejected 3 shipments of arsenous acid because they assayed below the U. S. P. standard.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 814.

Heuisler, P. I., reports that 2 samples of arsenic trioxide were rejected, assaying only 97 per cent As_2O_3 .—Proc. Maryland Pharm. Ass., 1908, p. 34.

Bachman, Gustav, reports that the samples of arsenic trioxide examined ranged from 87.21 to 96.71 per cent.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Philipp Röder (Jahresbericht, 1908, p. 13) reports on 3 samples which were found to contain 98.1, 99.5, and 99.7 per cent of arsenic trioxide. He also outlines a slight modification of the ammonia test.

Hartwich and Toggenburg report experiments to demonstrate the practicability of detecting arsenic trioxide by means of microsub-

limation.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 831–834.

Denigès, G., describes certain micro-chemical reactions of arsenic applicable to legal medicine.—Compt. rend. Acad. d. sc. Par., 1908, v. 147, pp. 596, 744.

Schamberg, J. F., discusses the therapeutic uses and toxicology of arsenic. He considers it unreliable and often dangerous.—J. Am. M. Ass., 1908, v. 51, p. 259. (See also Therap. Gaz., Detroit, 1908, v. 32, pp. 403–408.)

Hartzell, M. B., reviews briefly the therapeutic literature of arsenic, and states that he believes that atoxyl has no therapeutic properties which the official preparations of arsenic lack, though it is especially adapted for hypodermic use.—J. Am. M. Ass., 1908, v. 51, pp. 1482–1485.

Wells, G. Harlan, asserts that arsenic is a remedy which physicians of all schools admit to be useful in the malnutrition of phthisis, and some even go so far as to claim that it is specific.—Hahnemann. Month., Phila., 1908, v. 43, p. 601.

Additional references on the use of arsenic will be found in the Index Medicus and the J. Am. M. Ass.

ASAFETIDA.

Hills, Walter, believes that the ash of asafetida should not exceed 15 per cent, nor the substances insoluble in alcohol 50 per cent.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 12.

Rupp, E., calls attention to the Ph. Helv. IV methods for determining the acid number and the saponification number of asafetida.—Apoth. Ztg., Berl., 1908, v. 23, p. 221.

Pearson, W. A., asserts that it is difficult to obtain asafetida with less than 15 per cent ash. The rejection of many of the more objectionable samples by the Government chemists has materially decreased the ash content of recent consignments.—Am. J. Pharm., Phila., 1908, v. 80, p. 76.

An editorial discusses the grievances of American importers and London exporters under the United States customs regulations and methods of sampling.—Chem. & Drug., Lond., 1908, v. 73, p. 863.

An editorial discusses the admission into the United States of low-grade asafetida and points out that the ground taken by the importers is not tenable, largely because the law was enacted partly for the very purpose of preventing the refuse drugs of Europe from finding market in this country.—Oil, Paint and Drug Reporter, New York, 1908, v. 74, November 9, p. 7.

An editorial asserts that low-grade asafetida has found its way into this country to an alarming extent since the passage of the food and drugs act.—Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 369.

The Bureau of Chemistry calls attention to the fact that some importers are persistently offering asafetida of a low grade, claiming that the better article can not be secured abroad.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 430.

Kebler, L. F., reports that of 54 cases of asafetida examined, 46 were detained because of variations from the pharmacopœial standards. In all cases the percentage of alcohol soluble matter was below the standard, varying from 48.02 to 9.1 per cent. The remaining 8 cases clearly indicated that asafetida of pharmacopœial strength can be secured if desired.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 778. (See also Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 95. Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 11) report that in 27 samples of asafetida examined by them the amount soluble in alcohol ranged from 25.3 to 68.45 per cent; ash from 8.1 to 47.5 per cent. They assert that the ash has been very high in most shipments, but that it is now possible to obtain samples having less ash.

Clark, A. H., reports on 4 samples of powdered asafetida which contained from 14 to 50 per cent of alcohol soluble matter. The ash varied from 26 to 60 per cent.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 801.

Dohme and Engelhardt assert that it is very difficult to obtain a good asafetida. They rejected many shipments because of insufficient alcohol soluble matter or an excess of ash, or both. They report a variation of from 25.3 to 63.8 per cent in alcohol soluble matter, and from 20.5 to 44.8 per cent in ash.—*Ibid.*, 1908, v. 56, p. 814. (See also *Ibid.*, p. 767.)

Judd, A. F., reports asafetida containing 76.6 per cent of ash, partly gypsum.—*Ibid.*, 1908, v. 56, p. 767.

Heusler, P. I., reports that of 26 samples of asafetida examined 10 answered the requirements of the U. S. P. in regard to solubility in alcohol and percentage of ash.—Proc. Maryland Pharm. Ass., 1908, p. 34.

Lehn & Fink (Annual Report for 1908, pp. 11–12) point out that only fresh, soft gum ever reaches the requirements of the U. S. P. for asafetida. They think that the Pharmacopœia should describe in detail the method to be pursued in determining the solubility in alcohol.

Woolsey, J. F., reports on 9 samples of asafetida, 2 whole and 7 powdered, all of which exceeded the U. S. P. limit for ash.—Proc. Pennsylvania Pharm. Ass., 1908, pp. 86–87.

Gane and Webster assert that it is possible to secure powdered asafetida containing the U. S. P. content of alcohol soluble matter, but the ash limit is always exceeded.—Drug Topics, New York, 1908, v. 23, p. 260.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 5) report finding as high as 20 per cent of ash in several commercial samples of asafetida. Two samples of better quality contained 70.5 and 77.4 per cent of alcohol soluble matter with 5.4 and 2.6 per cent of ash, respectively.

Gehe & Co. (Handels-Bericht, 1908, p. 19) assert that the small surplus of asafetida now available consists only in part of usable drug.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. viii) assert that much of the available asafetida consists largely of inferior drug mixed with sand. They also point out that the Ph. Helv. IV requirements for asafetida are open to criticism, particularly the determination of the acid and the saponification number and the limitation for ash, the latter 20 per cent for mass being considered rather low.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 85-86) reports examining 7 samples of asafetida only 1 of which came within the 10 per cent limit of ash permitted by the Ph. Austr. VIII; the remaining 6 samples contained from 15.05 to 66 per cent of ash.

van der Harst, J. C., reports 2 samples of asafetida containing 18 and 35 per cent of ash, respectively, in place of 10 per cent permitted by the Ph. Ndl. IV.—Pharm. Weekblad., 1908, v. 45, p. 456.

The committee on the Pharmacopœia of the Department of Utrecht recommends that the permissible ash in asafetida be raised from 10 to 17 per cent.—*Ibid.*, p. 244.

Kühl, Hugo, in discussing asafetida points out that the drug in mass has an ash content ranging from 13 to 14 per cent upward, while the drug in tears has an ash content of from 0.75 to 2 per cent. Five samples of tincture of asafetida reported on varied in specific gravity from 0.824 to 0.840 and in residue from 3.688 to 3.06 gms.—Apoth. Ztg., Berl., 1908, v. 23, pp. 161, 162. (See also D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 29.)

Barnard, H. E., reports on 1 sample of tincture of asafetida examined which had a specific gravity at 20° C., of 0.8292, alcoholic volume at 20° C., 87.9, and 3.06 gms. extract per 100 cc.—Rep. Indiana Bd. Health, 1908, p. 341.

Hommell, P. E., suggests that inasmuch as the emulsion of asafetida is far from agreeable, a sweetened and aromatized emulsion should be introduced in the U. S. P. for internal exhibition.—Proc. New Jersey Pharm. Ass., 1908, p. 104.

ASPIDIUM.

Rusby, H. H., believes that the loss of reputation which male fern has suffered of late is due almost wholly to the enormous extent to which it has been adulterated.—Drug. Circ., N. Y., 1908, v. 52, p. 370.

Blome, Walter H., reports on 1 sample of male fern. Almost every piece was good and green.—Proc. Michigan Pharm. Ass., 1908, p. 93.

Vanderkleed, Charles E., reports 3 assays of male fern: 6.680 per cent lowest, 17.90 per cent highest, 10.003 per cent average. All above standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Philipp Röder (Jahresbericht, Wien, 1908, p. 116) reports on 3 samples of aspidium which were found to contain from 2.52 to 2.92 per cent of ash and from 9.22 to 10.10 per cent of ether soluble extract.

Cæsar & Loretz (Geschäfts-Bericht, 1908, p. x) again outline their method for determining filicin in extract of aspidium.

An abstract (from Deut. Med. Wchnschr.) reports a case of blindness following the ingestion of oleoresin of male fern.—Pharm. Zentralh., 1908, v. 49, p. 577.

Tissier, having observed an amelioration of the local and general lesions in tuberculous patients whom he was trying to rid of *Tænia* by means of male fern, undertook a systematic study of a number of cases. He obtained satisfactory results in pulmonary tuberculosis, particularly in young and apyretic subjects, but the medication was especially successful in scrofula.—Répert. d. pharm. Par., 1908, v. 20, p. 232.

Patterson, Francis Denison, in a discussion of the treatment of uncinariasis in Porto Rico, asserts that male fern has been found to be absolutely without value, despite the fact that such effects as dizziness frequently followed its administration.—Therap. Gaz., Detroit, 1908, v. 32, p. 245.

ATROPINA.

Hills, Walter, recommends that the source of atropine be "*Atropa belladonna* and other plants of the same natural order"; much of the alkaloid is at present manufactured from *Scopola* rhizome.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908). Lond., 1908, p. 12.

Wolfenstein and Mamlock discuss the chemistry of atropine and the synthesis of this alkaloid.—Ber. d. deutsch. chem. Gesellsch., Berl., 1908, v. 41, pp. 723-732. (See also paper by Wolfenstein and Rolle, *Ibid.*, pp. 733-740.)

Frey, Otto, questions the correctness of defining the melting point of atropine to tenths of a degree and points out that Merck. gives the melting point as varying from 113 to 115° C.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 642.

Heikel, Gunnar, reports a number of experiments to determine the practicability of using Mayer's reagent for the quantitative determination of atropine in solution. He concludes that the resulting pre-

cipitate is constant in composition.—Chem. Ztg., Cöthen, 1908, v. 32, p. 1150.

Scholtz, M., discusses the production and properties of a double salt of iron chloride and atropine hydrochloride.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, p. 47.

Fröhlich and Loewi report observations on the action of atropine on the nervous system.—Arch. f. exper. Path. u. Pharmacol., Leipz., 1908, v. 59, pp. 48–59.

Fardon, Harold J., reports observations on the action of atropine on the mammalian uterus.—Biochem. J., Liverpool, 1908, v. 3, pp. 418–419.

Webster, W., presents some observations on the action of atropine as a restorative in poisoning by chloroform or other anæsthetic.—*Ibid.*, 1908, v. 3, pp. 129–145.

McKittrick, A. S., asserts that atropine is a sheet anchor in injury of the eye, and is usually as much indicated as a splint to a broken bone.—Eclectic M. J., Cincin., 1908, v. 68, p. 41.

Hillegas, William M., asserts that atropia, gr. 1–150 to gr. 1–50, will generally give relief in hay fever.—Hahnemann. Month., Phila., 1908, v. 43, p. 581.

Additional references on the pharmacology and the use of atropine will be found in the Index Medicus and the J. Am. M. Ass.

ATROPINÆ SULPHAS.

Merck, E., points out that atropine sulphate crystallizes with one molecule of water of crystallization and that the loss of 2.65 per cent in weight on drying at 100° C. is to be expected.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 340.

AURANTII AMARI CORTEX.

Beringer, George M., outlines a formula for fluid glycerate of bitter orange peel, with the procedure to be followed, and asserts that the product formed a mucilaginous sediment, but after straining it has remained clear. It has the bitterness and considerable of the flavor of orange peel, the aroma being brought out on dilution. It mixes clear with water, sirup, or diluted alcohol, and cloudy with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 998.

AURANTII DULCIS CORTEX.

Beringer, George M., outlines a formula for fluid glycerate of sweet orange peel.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 998.

AURI ET SODII CHLORIDUM.

Bernegau. L. Henry, asserts that of many samples of gold and sodium chloride examined not one assayed the required 30 per cent metallic gold. Most of the samples ran between 28 and 28.8 per cent; 1 sample assayed far below this, namely, 24.6 per cent metallic gold.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 225.

Coblentz and May report examining several samples of commercial chloride of gold and sodium, which they found to contain from 29.84 to 29.91 per cent of gold. They call attention to the need for completely reducing the gold, and also recommend the employment of 0.3 gm. in place of 0.5 gm. of the salt for making the official assay.—*Merck's Rep., N. Y.*, 1908, v. 17, p. 169.

Seoville. W. L., found gold and sodium chloride containing from 22.96 to 29.5 per cent gold chloride.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 770.

Heuissler. P. I., reports that 2 samples of gold and sodium chloride showed 24 per cent purity only.—*Proc. Maryland Pharm. Ass.*, 1908, p. 35.

BALSAMUM PERUVIANUM.

Pearson. W. A., asserts that the U. S. P. tests for balsam of Peru must be followed in detail, as there are artificial products that conform to nearly every requirement. A limit should be inserted in regard to length of time the green color in the rosin test may remain without being called permanent.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 76.

Seidell. A., points out that the requirements for solubility do not indicate whether weight or volume parts of U. S. P. alcohol are intended. He also points out that the test for limit of acid resins might not be executed satisfactorily upon a sample of Peru balsam which will fulfill all other U. S. P. tests.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 528.

Hills. Walter, asserts that the lime test for balsam of Peru is unsatisfactory and should be omitted; the specific gravity should be narrowed to 1.140–1.150; the balsam should be stated to be soluble in absolute alcohol, in chloroform, and in glacial acetic acid. A modification of the cinnamein determination is described.—*Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14) Lond.*, 1908, p. 5.

Gane and Webster assert that artificial balsam of Peru is used extensively as a substitute or an adulterant. They report the result of an examination of artificial balsam of Peru and comment on the tests.—*Drug Topics, New York*, 1908, v. 23, p. 132.

Dohme and Engelhardt report balsam of Peru as being of good quality and call attention to "Perugen," so-called synthetic Peru bal-

sam. This name, however, is a misnomer, and should read "artificial," as it is a mixture of the various constituents of Peru balsam with storax. To distinguish the artificial from the natural product they recommend the method published by Dieterich.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 815.

Dieterich, Karl, in discussing the artificial and synthetic resin products, points out that the so-called synthetic balsam of Peru is in reality an artificial product as it does not contain all of the essential constituents of the true balsam. He also discusses at some length and illustrates the zone reactions of various samples of balsam of Peru.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 135–151. (See also pp. 251–252.)

McKesson, Donald, points out that the Germans have produced an artificial balsam of Peru that answers all of the U. S. P. tests and is hard to detect.—Proc. N. W. D. A., 1908, p. 107.

Gane, E. H., asserts that a satisfactory test is the copper acetate test for resin. The artificial responds to it, the genuine does not. A sample of artificial had a specific gravity of 1.144 at 25° C. Cinnamein content 64.8 per cent, solubility approximating the natural product. Acid resin 1 Gm.=2.1 c. c. N/2 KOH.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 767.

Kebler, L. F., asserts that the so-called synthetic balsam of Peru is a purely fictitious product.—*Ibid.*, 1908, v. 56, p. 778.

Patch, E. L., tested samples of balsam of Peru which responded to all U. S. P. tests, giving cinnamein contents 56 per cent to 58.88 per cent, but requiring 2 to 2.3 c. c. N/2 KOH.—*Ibid.*, 1908, v. 56, p. 768.

Woolsey, J. F., reports on 5 samples of balsam of Peru, 2 synthetic and 3 natural. The former had a specific gravity of 1.184 and 1.148 at 25° C.; acid number, 55.7 and 52.2; cinnamein content, 72.8 and 57.6 per cent, and saponification number of cinnamein, 214 and 227, respectively. The three natural samples varied from 1.143 to 1.146 specific gravity, at 25° C.; 69.6 to 73.0 acid number; 62.8 to 63.2 cinnamein, and 231 to 235 saponification number of cinnamein.—Proc. Pennsylvania Pharm. Ass., 1908, p. 85.

Smith, Kline & French Co. (Analytical Report, 1908, p. 12) report that, of 3 samples of balsam of Peru examined by them, 1 contained resin and an excess of acid resin. An imitation of this product which they examined contained fixed oils, resin, turpentine, and fatty acids, but resembled very closely in physical appearance the true balsam.

Gane and Webster report on 9 samples of balsam of Peru, which varied in specific gravity from 1.13 to 1.151, and in cinnamein content from 56 to 66.7 per cent. They assert that the finest balsams usually run well over 60 per cent in cinnamein content.—Drug Topics, New York, 1908, v. 23, p. 261.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 27) assert that the test of Dieterich, while of great value to distinguish natural and artificial balsams, is not very definite with mixtures of one with the other.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. x) assert that much of the available balsam of Peru is adulterated with perugen, the so-called synthetic balsam, and point out the need for developing tests to detect the artificial product. They discuss (p. 88) the several tests for this drug and point out that the specific gravity requirements might well be allowed to range from 1.140 to 1.153 at 15° C.

Philipp Röder (Jahresbericht, Wien, 1908, p. 36) reports on 4 samples of balsam of Peru, one of which was rejected because of the low cinnamein content.

An unsigned article discusses the use of balsam of Peru in general surgery and points out that its action is both mechanical and bactericidal, and that because of marked idiosyncrasies for this drug on the part of some patients continual careful urinalysis is therefore necessary in its use.—Therap. Gaz., Detroit, 1908, v. 32, pp. 357-358.

BALSAMUM TOLUTANUM.

Scoville, W. L., asserts that balsam of tolu varies considerably.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 768.

McKesson, Donald, asserts that the Germans have produced a spurious tolu balsam that answers all of the U. S. P. tests.—Proc. N. W. D. A., 1908, p. 107.

Dieterich, Karl, discusses and illustrates the zone reactions given by balsam of tolu and related compounds.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 135-151.

Perrot and Goris (Bull. d. Sc. Pharmacol., 1908, p. 636) outline a method for the detection of rosin in tolu balsam.—Proc. Am. Pharm. Ass., 1909, v. 57, p. 213.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 41) report that the free aromatic acid (as benzoic) in 3 samples of tolu balsam examined by them amounted to from 8.71 to 10.16 per cent and the combined from 19.36 to 21.78 per cent.

Philipp Röder (Jahresbericht, Wien, 1908, p. 36) points out that the Ph. Austr. VIII requirements for balsam of tolu do not suffice, and he has therefore adopted the Ph. Helv. IV standard.

Cook, E. Fullerton, believes the use of the official tincture in making sirup of tolu is a great advantage over the extemporaneous preparation of a tincture of tolu every time the sirup is made, as directed in the 1890 process.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 963.

McCutcheon, Alexander, uses a piece of parchment paper large enough to cover the bottom and sides of the pan to overcome the

difficulty which arises from the sticking of the tenacious resinous residue to the bottom of the pan in the preparation of the sirup of tolu.—Pharm. J., Lond., 1908, v. 80, p. 221. (See also pp. 243, 372.)

BELLADONNÆ FOLIA.

Hills, Walter, believes that in view of the introduction of dried belladonna leaves and of a tincture and extract made from them, but not standardized, as provided in the international agreement, it is desirable that dried belladonna leaves containing from 0.3 to 0.4 per cent alkaloid should be made official.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 4.

Schneider, Albert, outlines the methods pursued in the cultivation of belladonna in California.—Pacific Pharmacist, 1908-9, v. 2, pp. 325-326.

Hood, S. C. (Vermont Sta. Rpt., 1907, pp. 371-386) reports that belladonna fails to mature in the short season.—Exp. Sta. Rec., 1908-9, v. 20, p. 335.

Guérin and Guillaume discuss the adulteration of belladonna leaves and describe the anatomical differences of the leaves of *Atropa belladonna*, *Phytolacca decandra* and *Ailantus glandulosa*.—Bull. sc. pharmacol., Par., 1908, v. 15, pp. 213-222.

Kraemer, Henry, points out and illustrates some of the distinguishing morphological characters of belladonna herb and root and of scopola.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 819-824.

Stiles, M. H., reports on the microscopical examination of so-called false belladonna leaves submitted by E. M. Holmes.—Pharm. J., Lond., 1908, v. 80, p. 189.

Farwell, R. A., thinks that there can be no doubt that the false belladonna leaves referred to above are those of the poke, *Phytolacca decandra*, Lin.—*Ibid.*, v. 80, p. 435.

Holmes, E. M., replies that he was quite aware of the use of phytolacca leaves as a substitute for and adulterant of belladonna leaves for some years past, and if he had not been sure that they were not phytolacca leaves he should not have asked Stiles to go to the trouble of a histological examination of them.—*Ibid.*, 1908, v. 80, p. 477.

Rusby, H. H., asserts that poke leaves are frequently found as admixtures of belladonna leaves. He also asserts that scopola leaves are mixed with and substituted for belladonna leaves and points out that some indication of the identity of these plants is almost always present with the leaves; for example, the belladonna has black berries, while the scopola has pale yellow circumscissile pods, and the two can be instantly distinguished.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 138. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Pearson, W. A., thinks that belladonna may be accurately and satisfactorily assayed by the U. S. P. methods. In percolating the crude drug for assay more menstruum is advantageous.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 76.

Umney and Bennett say that, in the assay of belladonna, separation may be assisted by warming the separator in a jet of steam. The U. S. P. process is substantially the same as that employed in the *Ph. Brit.*, and has no special advantages.—*Pharm. J., Lond.*, 1908, v. 27, p. 345. (See also *Year-Book of Pharmacy, London*, 1908, p. 514.)

Parker, C. E., reports the results of cooperative work done on the assaying of belladonna leaves, and points out that by the U. S. P. method the results reported varied exceedingly.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 132. (*Bull. Bur. Chem., U. S. Dept. Agric.*, 1909, No. 122.)

Caesar & Loretz (*Geschäfts-Bericht*, 1908, p. cii) outline their method for the assay of belladonna leaf and similar drugs. Essentially the Keller method.

Smith, Kline & French Co. (*Analytical Report*, 1908, p. 12) report examining 7 samples of belladonna leaves, the mydriatic alkaloids present ranging from 0.31 to 0.44 per cent.

Vanderkleed, Charles E., reports 14 assays of belladonna leaf; 0.192 per cent lowest; 0.510 per cent highest; 0.331 per cent average; 9 above and 5 below standard.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 88.

Patch, E. L., reports 7 assays of belladonna leaves ranging from 0.273 to 0.4 per cent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 768.

Dohme and Engelhardt report on 5 samples of belladonna leaves assaying from 0.22 to 0.30 per cent of mydriatic alkaloids.—*Ibid.*, 1908, v. 56, p. 815.

Clark, A. H., reports on 2 samples of belladonna leaves that were above the present standard 0.3 and below the old standard of 0.35 per cent.—*Ibid.*, 1908, v. 56, p. 802.

Blome, Walter H., reports on 1 sample of belladonna leaves assaying 0.767 per cent mydriatic alkaloids.—*Proc. Michigan Pharm. Ass.*, 1908, p. 91.

Rusby, H. H., found 1 shipment of belladonna leaves adulterated with scopolia leaves; 1 with 50 per cent scopolia leaves; 1 with 80 per cent stems; and another with 50 per cent stems and fruit.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 768.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 6) report finding from 0.25 to 0.53 per cent alkaloid (as atropine) in the various samples of belladonna leaves tested during the year.

Philipp Röder (*Jahresbericht*, Wien, 1908, pp. 74-75) reports on 6 samples of belladonna leaves which contained from 0.351 to 0.402

mydriatic alkaloids and from 11.84 to 18.72 per cent of ash. The Ph. Austr. VIII limits the ash content of this drug to 15 per cent.

Beringer, George M., calls attention to the pharmacopœial direction for assaying extract of belladonna and asserts that the attempt to dissolve the extract in the beaker in these immiscible fluids is impractical and destructive of accuracy.—Proc. New Jersey Pharm. Ass., 1908, p. 90. (See also Am. J. Pharm., Phila., 1908, v. 80, p. 432.)

Rupp, E., discusses the estimation of alkaloids in extract of belladonna, reports experiments with several processes, and suggests 1 per cent of mydriatic alkaloids as a fair standard.—Pharm. Ztg., Berl., 1908, v. 53, pp. 737-738.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 54-55) reports on 5 samples of extract of belladonna leaves which were found to contain from 1.31 to 1.76 per cent of mydriatic alkaloids.

Warin has investigated the causes of divergence in the reports of different authors, as to the alkaloid content of extracts of belladonna prepared according to the formula adopted by the Brussels Conference.—Répert. d. pharm., Par., 1908, v. 20, p. 188. (See also Chem. Zentralbl., Berl., 1908, v. 79, p. 1790.)

Williams, Seward W., commenting on the opinion of J. Warin (see above) that the standard of 1.5 per cent alkaloid proposed at the Brussels Conference is too low, as the majority of belladonna leaves yield an extract containing from 2.5 to 4 per cent of alkaloids, notes that, while true of extract produced with full-strength alcohol, this does not hold good where a weaker menstruum is used—as in the U. S. P. He deprecates the adoption of a higher standard and says that caution must be used in changes of this kind or physicians will feel forced to give up galenical for alkaloidal medication.—Pharm. J., Lond., 1908, v. 80, p. 660.

Ribaut, H., reports observations on the deterioration of extracts of the Solanaceæ and points out that, in the course of 4 years, 4 samples of extract of belladonna leaves deteriorated 3, 45, 22, and 3 per cent, respectively.—Bull. sc. pharmacol., 1908, v. 15, pp. 495-503.

Hills, Walter, recommends that *extractum belladonnæ viride* be omitted from the Ph. Brit., its place being taken by the new international standardized extract made from the dried leaves.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 4.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 6) report the examination of 7 samples of green belladonna extract which varied in alkaloid content from 0.4 to 0.96 per cent. Two samples of German extract contained only 0.1 per cent alkaloid.

Smith, Kline & French Co. (Analytical Report, 1908, p. 18) report that the 3 samples of extract of belladonna leaves examined by them

contained 1.53, 1.50, and 1.51 per cent of mydriatic alkaloids, respectively.

Kromer, N., discusses the practicability of distinguishing between extract of belladonna and the extracts of leaves that have been substituted for that drug. He reports a number of experiments to determine the characteristics of the various extracts.—*Pharm. Zentralh.*, 1908, v. 49, pp. 499–505.

Kilmer, Fred. B., describes and illustrates the method employed by him for extracting belladonna for extract used in the manufacture of belladonna plaster.—*Chem. Eng.*, 1908, v. 7, pp. 45–49.

Mittelbach, William, thinks that tincture of belladonna should be made from the root: for reasons which he says are obvious.—*Proc. Missouri Pharm. Ass.*, 1908, p. 98.

Smith, Kline & French Co. (Analytical Report, 1908, p. 38) report that the 2 samples of tincture of belladonna leaves which they examined contained 0.048 and 0.035 gm. mydriatic alkaloids, respectively, per 100 cc.

Beringer, George M., outlines a formula for fluid glycerate of belladonna leaves.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 986.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 36 samples of belladonna plaster, 3 being below standard.

Franklin, J. H., commends the B. P. C. formula for belladonna colodion and suggests its use as a liquid belladonna plaster.—*Pharm. J., Lond.*, 1908, v. 26, p. 672.

Palmer, G. C., reports the case of a man aged 50 who developed symptoms of poisoning, lasting about a week, after the application of a belladonna plaster.—*Brit. M. J., Lond.*, 1908, v. 2, p. 544.

Nifer, F. J., asserts that belladonna is a most important remedy in inflammation; it equalizes the circulation and prevents hyperæmia.—*Tr. Nat. Eclect. M. Ass.*, 1908, v. 36, p. 84.

Pauly, C. A., asserts that belladonna is indicated in high fever, hot, dry skin, thirst, throbbing headache, pulsation of the carotids, tearing, cutting pains deep in the bones, coming and going quickly, pains worse at night and from motion and touch.—*Hahnemann. Month., Phila.*, 1908, v. 43, p. 877.

For additional references on the use of belladonna see the *Index Medicus* and the *J. Am. M. Ass.*

BELLADONNÆ RADIX.

The report of the Bureau of Chemistry points out that when the work was first begun it was rarely found that an importation of belladonna root was not adulterated with some foreign root, such as pokeroot, scopolia root, etc., and the same was true of the leaves. At

present it is rare to find this drug so adulterated.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 430.

Rusby, H. H., asserts that the belladonna invoice frequently covers a multitude of fatal and dangerous imperfections. He believes that a very large part of our belladonna root contains pokeroor, not only an exceedingly active poison but an article that counteracts the medicinal effect of belladonna.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 138. (Bull. Bur. Chem., U. S. Dept. Agric., No. 122. See also Proc. Am. Pharm. Ass., 1908, v. 56, p. 791, and Drug. Circ., N. Y., 1908, v. 52, p. 370.)

Pearson and Roberts discuss the alkaloidal assay of belladonna root, figure the apparatus used by them and compare their method with the method suggested by Enoch.—Am. J. Pharm., Phila., 1908, v. 80, pp. 368-373.

Parker, C. E., reports the cooperative work done on the assaying of belladonna root and points out that of the few gravimetric results from the use of the U. S. P. method, 29 per cent came within 10 per cent of the average and 43 per cent within 15 per cent. Of the volumetric results, 46 per cent came within 10 per cent of the average and 80 per cent within 15 per cent. By the alternative method the gravimetric results varied more than the similar determinations by the U. S. P. method.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 133. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Patch, E. L., reports belladonna root assaying from 0.33 per cent to 0.53 per cent.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 768.

Smith, Kline & French Co. (Analytical Report, 1908, p. 13) report that in 15 samples of belladonna root examined by them the total mydriatic alkaloids present ranged from 0.17 to 0.73 per cent.

Dohme and Engelhardt have examined samples of belladonna root which fell considerably below the standard of the U. S. P. assaying as low as 0.17 per cent of total mydriatic alkaloids.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 814-815.

Heusler, P. I., reports that of 21 samples of belladonna root examined 17 came up to 0.3 per cent mydriatic alkaloids.—Proc. Maryland Pharm. Ass., 1908, p. 34.

Carr and Reynolds found that belladonna root varied from 0.29 per cent to 0.55 per cent in total alkaloid; and the dried herb from 0.23 to 1.08 per cent.—Pharm. J., Lond., 1908, v. 26, p. 543.

Gane and Webster report that 6 samples of belladonna root obtained from various sources representing about 2,000 pounds, assayed from 0.4 to 0.65 per cent of alkaloid.—Drug Topics, New York, 1908, v. 23, p. 261.

Vanderkleed, Charles E., reports 8 assays of belladonna root; 0.130 per cent lowest, 0.678 per cent highest, 0.470 per cent average; 4

above and 4 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 6) report that of 18 samples of belladonna root examined by them only 1 yielded less than 0.3 per cent of atropine whilst 4 gave less than 0.4 per cent. The highest figure reached was 0.6 per cent. They point out the difficulty of accurate sampling of this class of drug.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xlv) report that the available belladonna root varies considerably in alkaloidal content and that only exceptional samples will comply with the original U. S. P. requirement of 0.5 per cent of mydriatic alkaloids.

Philipp Röder (Jahresbericht, Wien, 1908, p. 114) reports on 2 samples of belladonna root which were found to contain 5.81 and 6.12 per cent of ash, and 0.625 and 0.385 per cent of mydriatic alkaloids, respectively.

Lyons, A. B., asserts that the pharmacopœial process for the assay of fluid extracts of the mydriatic drugs gives in skillful hands fairly satisfactory results. He enumerates a number of difficulties encountered and outlines an alternative process which he believes to be more simple.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 22–24.

Hills, Walter, believes that a liquid extract of the root of belladonna should be retained in the Ph. Brit. as at present, but its strength should be 0.5 per cent of alkaloid. From this standardized liquid extract of the root the liniment, ointment, plaster, and suppository of belladonna should be prepared.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 4.

Smith, Kline & French Co. (Analytical Report, 1908, p. 21) report that in the 4 samples of fluid extract of belladonna root examined by them the mydriatic alkaloids in 100 c. c. ranged from 0.3 gm. to 0.48 gm.

Beringer, George M., outlines a formula for fluid glycerate of belladonna root.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 986.

BENZALDEHYDUM.

Schimmel & Co. (Semi-Annual Report, Apr., 1908, p. 136), in commenting on the B. P. C. requirements for benzaldehyde, point out that the specific gravity varies from 1.050 to 1.055 at 15°.

Smith, Kline & French Co. (Analytical Report, 1908, p. 13) report that the strength of 8 samples of benzaldehyde examined by them ranged from 66 to 88.7 per cent.

Woodman and Lyford discuss the colorimetric estimation of benzaldehyde in almond extracts and point out that the method can probably be applied also to the valuation of almond oils.—J. Am. Chem. Soc., 1908, v. 30, pp. 1607–1611.

BENZINUM.

Raubenheimer, Otto, discusses the use of the words benzin, benzine, benzene, benzol, benzole, and benzoline.—Chem. & Drug., Lond., 1908, v. 73, p. 172. (See also Drug. Circ., N. Y., 1908, v. 52, pp. 421-422, 559, 622, and Drug Topics, New York, 1908, v. 23, pp. 230-231.)

Dott, D. B., asserts that the benzin-benzole problem has not been solved by Raubenheimer and that the only possible remedy for the confusion is for people in America and in Britain to drop the words "benzin" and "benzine" as applied to a petroleum distillate.—Chem. & Drug., Lond., 1908, v. 73, p. 367.

Schelenz, Hermann, discusses the discovery of benzole and the uncertainty that has prevailed regarding the nomenclature of benzole and petroleum benzin.—Ztschr. f. ang. Chem., 1908, v. 21, pp. 2577-2579.

The Pharm. J. (Lond., 1908, v. 27, p. 487) critique of the Ph. Fr. V states that benzine is there C_6H_6 , and is given the synonyms benzène and benzol, thus perpetuating the confusion that has always surrounded these names.

Kissling, Richard, discusses the importance of considering the atmospheric pressure in the testing of commercial benzin by means of fractional distillation.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 695-697.

Lehn & Fink (Annual Report for 1908, pp. 12-13) assert that it is well-nigh impossible to attain the U. S. P. standard as to boiling point of benzin. A table is presented giving the results of an experiment to determine the boiling point of this substance. They suggest that the official requirement as to boiling point be revised in accordance with certain properties of benzin as illustrated by their experiment.

Blome, Walter H., reports that gasoline upon evaporation frequently leaves the odor of kerosene.—Proc. Michigan Pharm. Ass., 1908, p. 92.

Merz, Josef, presents a compilation of reported accidents from the use of benzin and points out that with proper precautions there is no danger from the use of this article.—Chem. Ztg., Cöthen, 1908, v. 32, p. 804.

Farrell and Howles (J. Soc. Dyers and Colour., 1908, v. 24, p. 109) report that experiments to determine the disinfecting value of petroleum benzin show that at ordinary temperatures this article has no value.—Chem. Repert. Cöthen, 1908, v. 32, p. 338.

Federschmidt (Ztschr. f. Medizinalbeamte, 1908, v. 21, p. 653) reviews a number of cases and asserts that the toxicity of benzin, for adults, is comparatively slight, while for children, particularly young children, it is much greater.—*Ibid.*, 1908, v. 32, p. 690.

BENZOINUM.

Hills, Walter, reports that experiments made by the committee of reference have shown that Sumatra benzoin should be the only official variety, the Siam benzoin being used to so small an extent that it might well be omitted.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, pp. 4-5.

Pinchbeck, G., asserts that the B. P. C. requirement that Sumatra benzoin be 90 per cent soluble in alcohol is too stringent and requires revision.—Pharm. J., Lond., 1908, v. 26, p. 671.

Harvey, T. F., reports that a limit of 10 per cent insoluble in alcohol seems far too stringent. Out of 40 samples only 3 fulfilled this requirement, the majority lying between 10 and 20 per cent.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Kühl, Hugo, asserts that the ash content of benzoin does not exceed 1.5 per cent. The melting point of Siam benzoin he gives as 75° C, while Sumatra benzoin is said to melt at from 80 to 95° C.—Apoth. Ztg., Berl., 1908, v. 23, p. 162.

Gane and Webster point out that the ash test alone is not a good criterion of the purity of benzoin. They report on 3 samples which were, respectively, 26.01, 30.12, and 14.57 per cent insoluble in alcohol and contained 1.06, 2.13, and 0.63 per cent of ash.—Drug. Topics, New York, 1908, v. 23, p. 197.

Havenhill, L. D., points out that Siam and Sumatra benzoin, though both are official as benzoin, vary greatly in price and also in their yield of resinous matter. Siam benzoin usually yields about 98 per cent of alcohol-soluble matter, while the Sumatra variety frequently yields less than 60 per cent.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 932.

Rupp, E., commends the Ph. Helv. method for determining the acid number and the ester number of benzoin, also outlines the method for determining the saponification number.—Apoth. Ztg., Berl., 1908, v. 23, p. 222.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xiv) are in doubt as to the practicability of requiring the pharmacist to determine the acid number and the saponification number of benzoin as outlined in the Ph. Helv. IV.

Rusby, H. H., reports one shipment of artificial benzoin; 3 lots of Sumatra benzoin were found to be heavily loaded with chopped bark and sand.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 768, 792.

Smith, Kline & French Co. (Analytical Report, 1908, p. 13) report that the residue not soluble in alcohol, of 9 samples of benzoin examined by them ranged from 22 to 30 per cent; the ash of 6 samples from 1.25 to 2.05 per cent.

Lehn & Fink (Annual Report for 1908, p. 13) assert that the U. S. P. requirement that benzoin be almost wholly soluble in 5 parts of warm alcohol is too exacting and too indefinite and that only select tears dissolve in alcohol. They think the requirement as regards ash is quite fair.

Dohme and Engelhardt rejected a sample of Siam benzoin because of yielding only 90 per cent of alcohol soluble matter, the U. S. P. requirement being 95 per cent.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 815.

Woolsey, J. F., reports on 6 samples of Siam benzoin, 2 whole and 4 powdered. The former had a solubility in alcohol of 97.92 and 85.60, and a percentage of ash of 0.17 and 1.50, respectively. The powdered samples ranged in solubility in alcohol from 71.22 to 84.90, and in ash percentage from 1.20 to 1.48 per cent.—Proc. Pennsylvania Pharm. Ass., 1908, p. 85.

Philipp Röder (Jahresbericht, Wien, 1908, p. 125) reports on 3 samples of benzoin which were found to contain from 0.09 to 1.05 per cent of ash. The latter sample was 3.28 per cent insoluble in alcohol.

Kühl, Hugo, reports that the dry residue obtained from 3 samples of tincture of Siam benzoin, dried at 80° C., was 11.20, 10.4, and 13.8 per cent. Four samples of tincture made from Sumatra benzoin varied from 9.3 to 10.94 per cent of dry residue.—Apoth. Ztg., Berl., 1908, v. 23, p. 162. (See also D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, pp. 29-30.)

Gane and Webster report a variation of from 79 to 83 volume per cent of absolute alcohol in 7 different lots of tincture of benzoin.—Drug Topics, New York, 1908, v. 23, p. 149.

The N. Y. Board of Pharmacy, eastern branch, found 4 out of 312 samples of tincture of benzoin examined to be not of standard quality.—Drug. Circ., N. Y., 1908, v. 52, p. 87.

BENZOSULPHINIDUM.

An editorial notes that the saccharin patent, which is the property of the Saccharin Corporation, lapses at the close of the present year, and the National Association of Mineral Water Manufacturers has decided to oppose the renewal of the patent.—Pharm. J., Lond., 1908, v. 27, p. 273.

Kempf, Richard, discusses the vacuum sublimation of saccharin. He finds the melting of the sublimed substance to vary from 228-229° C., while the commercial product melted at 226° C.—J. f. prakt. Chem., Leipz., 1908, v. 78, p. 254.

Bradford, H. C., asserts that, when employed with caution and judgment, saccharin is a most valuable agent for correcting the ob-

jectionable bitter taste of different medicaments.—Western Druggist, Chicago, 1908, v. 30, p. 346.

Parmeggiani, G., recommends a method for the extraction and determination of saccharin.—Boll. chim. farm., Milan, 1908, v. 47, p. 37.

Bianchi and Di Nola give two methods for detecting saccharin in foods.—*Ibid.*, 1908, v. 47, pp. 183–185, 599–605.

Druggists Circular, New York (1908, v. 52, p. 122) commenting on several formulas for tasteless castor oil, says: We believe we have heard that the use of saccharin as a sweetener of castor oil was claimed as a monopoly under a patent.

The editor states, in answer to a query, that experiments of Stutzer and Stift have shown that benzolsulphinide interferes with the action of the digestive ferments. The editor also quotes numerous authorities to prove that its action is deleterious.—J. Am. M. Ass., 1908, v. 50, p. 224.

BERBERIS.

Farwell, A. O., asserts that while the supply of *Berberis aquifolium* root is up to normal and there is no likelihood of its running out, yet gatherers are mixing in with it the stems of the shrub, which are for all practical purposes inert.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Bauer, Karl, reports observations on the microchemical determination of berberine in plants and drugs.—Ztsch. d. allg. österr. Apoth. Ver., Wien, 1908, v. 46, pp. 355–356.

Beringer, George M., outlines a formula for fluid glycerate of berberis.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 987.

Webb, Frank W., asserts that, if there is such a thing as an anti-syphilitic, *Berberis aquifolia* can unhesitatingly be recommended as such.—Eclectic Rev., 1908, v. 11, p. 106.

BETANAPHTHOL.

Voley-Boucher discusses a new differential reaction (copper cyanide) for the naphthols.—Ann. de chim. analyt., Par., 1908, v. 13, pp. 335–338. (See also Répert. d. pharm. Par., 1908, v. 20, pp. 289–292.)

Patterson, Francis Denison, asserts that betanaphthol has proved very valuable in the treatment of uncinariasis and that it ranks second to thymol as a remedy.—Therap. Gaz., Detroit, 1908, v. 32, p. 245.

Freeman, Albert H., describes the use of betanaphthol in the treatment of hookworm. He says that he has seen no poisoning from it in drachm doses. The dose given should be from 15 to 60 grn., according to the age and condition of the patient, after salines, preferably, and while fasting.—Merck's Arch., N. Y., 1908, v. 10, p. 11.

Kopytowski, W. (*Medycyna i Kron. lek.*, Warszawa, 1908, xliii, 1148-1156) presents observations of pathological alterations in the skin produced upon it by the action of *b*-naphthol.—*Index Medicus*, 1909, v. 7, p. 236.

BISMUTHI CITRAS.

Telle, Hans, discusses the chemistry of the several combinations of bismuth with citric acid.—*Arch. d. Pharm.*, 1908, v. 246, pp. 502-503.

Pinchbeck, G., asserts that the amount of citric acid used in this preparation is 6 per cent in excess of the amount required by theory. As pointed out by Duncan and confirmed by experience, an excess of either acid or alkali should be avoided.—*Pharm. J.*, Lond., 1908, v. 26, p. 671.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 7) report that only one of the samples of bismuth citrate examined by them failed to satisfy the requirements of the B. P. Codex. This gave 51.6 per cent of bismuth oxide instead of nearly 58 per cent.

BISMUTHI OXIDUM HYDRATUM N. F.

Raubenheimer, Otto, discusses the hydrated oxide of bismuth and its chemistry, and reports a number of experiments with an improved formula.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 1010-1016.

BISMUTHI SUBCARBONAS.

Hills, Walter, believes that this preparation should yield from 89 to 91 per cent of oxide.—*Rep. (2d. interim) Com. Ref. Genl. Med. Council (Nov. 7 to April 14)*, Lond., 1908, p. 6.

Hill, Charles Alexander, suggests, as a standard for bismuth carbonate 2 parts arsenic per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Dohme and Engelhardt rejected one shipment of bismuth subcarbonate on account of its dark color.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 815.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 7) report that 25 samples of bismuth carbonate examined by them were found to leave between 89.8 and 91.8 per cent of bismuth oxide upon ignition. Ammonia, nitrates, and chlorides were detected in exceedingly small amounts on a few occasions.

Simmons, W. H., points out that nitrates are probably the most common of the impurities in bismuth salts, and he outlines a convenient method for the estimation of nitrate in bismuth oxide, hydrate, citrate, carbonate, oxychloride, or phenate and presents a table showing the amount of nitrate found in a number of different samples of these salts.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 198.

BISMUTHI SUBGALLAS.

May, Otto B., reports on the examination of 6 samples of bismuth subgallate. No one of the samples strictly complied with U. S. P. requirements for the absence of free gallic acid. He outlines a test which he believes would be more in compliance with commercial practices.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 209.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 7) report that, with the exception of traces of nitrate in 1 sample, all the samples examined by them were in accordance with the B. P. C.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 37) points out that the Ph. Helv. IV has included a method for preparing bismuth subgallate, and that the resulting preparation is required to contain 52 per cent of bismuth oxide. Three samples examined by him contained approximately 54 per cent of bismuth oxide.

Wells, G. Harlan, employs bismuth subgallate in doses of from 10 to 15 grains for the diarrhoea of tuberculosis.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 609.

BISMUTHI SUBNITRAS.

Hill, Charles Alexander, suggests, as a standard for bismuth subnitrate, 2 parts arsenic per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Hills, Walter, believes that the determination of the bismuth as oxide should be substituted for that as sulphide, since it is more convenient and more accurate. Bismuth subnitrate should yield between 79 and 82 per cent of oxide.—*Rep. (2d. interim) Com. Ref. Genl. Med. Council (Nov. 7, to Apr. 14)*, Lond., 1908, p. 6.

Brown, Edward J., outlines a process for the determination of bismuth subnitrate, which gives better results than the usual estimation of the metal as sulphide or oxide.—*Pharm. J.*, Lond., 1908, v. 80, p. 378; see also *Ibid.*, p. 380.

Hill, J. Rutherford, presents a note on bismuth subnitrate and suggests the need in the Ph. Brit. of a test for detecting ammonia, such as appears in the U. S. P.—*Ibid.*, 1908, v. 80, p. 221.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 8) detected distinct traces of ammonia in 4 commercial samples examined. The amount of bismuth oxide left upon ignition, based on 20 samples examined during the year, is from 80 to 81 per cent.

McGill, A., reports that, with two exceptions, the 55 samples of bismuth subnitrate examined fully met the requirements of the Ph. Brit.; the 2 samples excepted were oxycarbonate of bismuth.—*Bull. Lab. Int. Rev. Dept.*, Canada, No. 146, 1908, pp. 1-9.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 38) reports on 8 samples of bismuth subnitrate, 2 of which contained an excess of

chlorine; all of the remaining samples contained traces of chlorine and 2 contained minute traces of sulphuric acid.

Beck, Emil J., uses a bismuth paste for determining the extent and direction of fistulous tracts. The paste serves as a framework for the connective tissue, the bismuth is finally absorbed, and the cavity obliterated. The injection is painless.—*J. Am. M. Ass.*, 1908, v. 50, pp. 868-872.

The same author reports continued success with the use of the bismuth paste.—*Ibid.*, 1908, v. 50, p. 2017.

Eggenberger, H., reports a fatal case of poisoning, with symptoms resembling mercurial poisoning, following the injection of a bismuth paste into a fistula.—*Ibid.*, 1908, v. 51, p. 2012.

Meyer, Erich, reports several cases of poisoning following the use of bismuth subnitrate in connection with Roentgen diagnoses and recommends the use of bismuth subcarbonate instead.—*Therap. Monatsh.*, Berl., 1908, v. 22, pp. 388-390.

A number of references on the use and the toxicology of bismuth salts will be found in the *Index Medicus* and the *J. Am. M. Ass.*

BISMUTHI SUBSALICYLAS.

Heikel, Gunnar, outlines a method for preparing bismuth subsalicylate by decomposing a solution of bismuth nitrate with a solution of ammonium salicylate.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 584-586.

Hills, Walter, asserts that bismuth salicylate should yield from 62 to 65 per cent of oxide. The present test for free salicylic acid is defective, as alcohol causes partial decomposition of the salt.—*Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14)*, Lond., 1908, p. 6.

May, Otto B., reports the examination of 6 samples of bismuth subsalicylate and points out that owing to the feeble basic properties of bismuth salicylate and the readiness with which salicylic acid is liberated during the drying, a more liberal allowance must be made in the future for free (uncombined) acid. He outlines a test which he believes to be based on present market supply.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 210.

Harrison, Bristowe P., contributes a note on the examination of bismuth salicylate for free salicylic acid, with a tabulated statement of the results obtained in the use of different solvents.—*Pharm. J.*, Lond., 1908, v. 27, p. 349. (See also *Year-Book of Pharmacy*, London, 1908, pp. 431-433.)

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 7) report finding traces of free salicylic acid in 3 samples of bismuth salicylate.

de Ogny, P. A., asserts that bismuth subsalicylate has no equal as an antiferment. Given to the chronic dyspeptic it arrests fermenta-

tion. promotes a better digestion, and makes you a friend.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 32.

BISMUTHUM.

Coblentz and May present some observations on the testing of bismuth salts for arsenic.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 881–883.

Guthier, A., and several collaborators present the results of experiments to determine the atomic weight of bismuth.—*J. f. prakt. Chem.*, Leipzig, 1908, v. 77, pp. 457–471; v. 78, pp. 409–466.

Metzger and Beans discuss the electrolytic determination of bismuth, and report a number of experiments with and without boric acid.—*Chem. News*, Lond., 1908, v. 98, pp. 202–204.

Peset, J., presents a contribution on the electrolytic estimation of bismuth, which he asserts is readily accomplished by coating the bismuth with a layer of cadmium to prevent oxidation.—*Ztschr. f. anal. Chem.*, Wiesb., 1908, v. 47, p. 401.

Balavoine, Pierre, comments on the article published by Moser (*Ibid.*, 1907, v. 46, p. 223) and calls attention to an earlier publication in which he points out the variability in composition of bismuth salts.—*Ibid.*, 1908, v. 47, p. 681.

Telle, Hans, presents some observations on the combinations of bismuth with several aliphatic oxy-acids.—*Arch. d. Pharm.*, 1908, v. 246, pp. 484–503.

BROMOFORUM.

de Coninck, W. O. (*Rev. gén. chim.*, 12, 20), discusses the comparative stability of bromoform, chloroform, and iodoform.—*Chem. Abstr. Am. Chem. Soc.*, 1909, v. 3, p. 1149.

Encessel discusses the toxic action of bromoform in the treatment of whooping cough.—*Cron. med. mex. Mexico*, 1908, v. 11, pp. 263–265.

BROMUM.

An editorial note points out that bromine is produced commercially in this country in four States—Michigan, Ohio, Pennsylvania, and West Virginia, named in order of relative importance.—*Paint, Oil, and Drug Review*, Chicago, 1908, v. 46, September 2, p. 13.

A news note calls attention to the production of bromine in the United States, which increased from 598,500 pounds in 1903 to 1,379,496 pounds in 1907.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 400.

Kinnaman, Guy C., concludes from a study of the germicidal action of bromine that it possesses peculiar selective action for certain groups of micro-organisms: for example, a solution of 1:300 has a marked germicidal action for cocci and fungi. It is far from being an ideal antiseptic.—*J. Am. M. Ass.*, 1908, v. 50, pp. 345–351.

BUCHU.

Weigel, G., describes the adulterant for buchu recognized by Holmes as being probably derived from *Barosma pulchella* B. et W.—Pharm. Zentralh., 1908, v. 49, p. 961.

Farwell, A. O., asserts that buchu during the past year has been imported with such an excessive amount of stems and other foreign matter intermixed as to render it unfit for any use.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Rusby, H. H., found many shipments of spurious buchu; other lots had a large amount of stems.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 768, 793.

Sayre, L. E., points out that the menstruum for fluid extract of buchu was changed from 94 per cent alcohol in U. S. P., 1890, to 70.5 per cent alcohol, U. S. P. VIII.—Merck's Rep., N. Y., 1908, v. 17, p. 4.

Beringer, George M., believes that fluid extract of buchu should be made with alcohol as a menstruum, in place of the mixture of alcohol and water now official.—Am. J. Pharm., Phila., 1908, v. 80, p. 435. (See also Proc., New Jersey Pharm. Ass., 1908, p. 92.)

CAFFEINA.

Hills, Walter, believes that as caffeine gradually loses water of crystallization a maximum of 8.5 per cent should be fixed in place of the present definite requirement of 8.49 per cent, which can not practically be complied with. The solubility in a mixture of chloroform and alcohol might be omitted, as it appears to serve no useful purpose.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 6.

Kempf, Richard, discusses the purification of theobromine and of theine by means of vacuum sublimation. He finds the melting point of the latter substance to be 236.5° C. in place of 234–235°, the figure usually given in the literature.—J. f. prakt. Chem., Leipz., 1908, v. 78, pp. 264 and 268.

Smith, Kline & French Co. (Analytical Report, 1908, p. 14) report that the melting points of 2 samples of caffeine examined by them were 227° and 228.5° C., respectively.

Gordin, H. M., presents a review of a number of articles on the chemistry and composition of caffeine.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 76–79.

Lehn & Fink (Annual Report, 1908, p. 13) report examining a sample of caffeine answering every requirement of the U. S. P., except that for melting point, which was about 2° lower than that of the U. S. P. They think this is not a sufficient discrepancy for condemning the sample.

Lendrich and Murdfield (*Ztschr. Untersuch. Nahr. u. Genussmtl.*, 16, 1908, No. 11, pp. 647-658) present a critical study of methods for the estimation of caffeine and call attention to an important source of error in estimating caffeine by the Juckenack-Hilger method.—*Exp. Sta. Rec.*, 1908-9, v. 20, p. 1009.

Emery, W. O., outlines a method for the determination of caffeine in mixtures of this alkaloid with acetanilide and sodium bicarbonate.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 100. (*Bull. Bur. Chem.*, U. S. Dept. Agric., 1909, No. 122.)

Nussbaum reviews an article by Weevers (*Annales du Jardin botanique de Buitenzorg*, 1907) on the physiologic significance of caffeine and theobromine and their occurrence in various plants.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 182-184.

The Druggists' Circular (N. Y., 1908, v. 52, p. 315) quotes a press dispatch with reference to the boom of the soft-drink business in prohibition States, and comments on the ill effects produced by one brand which contains caffeine.

The Bureau of Chemistry reports that studies on the pharmacology of caffeine are nearing completion.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 438.

Plavac, Václav, discusses the influence on the heart of methyl derivatives of xanthin, and reports observations on the comparative efficiency of caffeine, theobromine, and theophyllin.—*Arch. Internat. de pharmacod. et de therap.*, 1908, v. 18, pp. 499-534. (See also pp. 232-234.)

CAFFEINA CITRATA.

The therapeutic committee of the British Medical Association suggests that citrated caffeine be deleted from the Ph. Brit., as it is an unstable preparation and decomposes when dissolved in more than 3 parts of water.—*Pharm. J.*, Lond., 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 319.)

Harvey, T. F., reports that the present formula for *caffeinae citras* seems satisfactory if only just enough water be added to render the hot mass pasty.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 904.

Hills, Walter, describes a method for the preparation of caffeine citrate which he believes more convenient than the present one.—*Rep. (2d. interim) Com. Ref. Genl. Med. Council* (Nov. 7 to Apr. 14), Lond., 1908, p. 6.

CALAMUS.

Philipp Röder (*Jahresbericht. Wien*, 1908, p. 115) reports on 2 samples of calamus which contained 5.47 and 4.41 per cent of ash, respectively.

CALCII CARBONAS PRÆCIPITATUS.

Hill, Charles Alexander, suggests, as a standard for calcium carbonate, lead 10 parts per million, and arsenic 5 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797. (See also comments by Walter Hills, Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 15.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 14) report that of 3 samples of calcii carbonas præcipitatus examined by them 1 contained an excess of substances insoluble in hydrochloric acid.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 74.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 9) report that all the samples of calcium carbonate (precipitated) examined by them were found to be practically free from lead. Arsenic was detected occasionally but did not amount to more than 3 parts per million. The most usual impurity in this article is iron, of which it often contains heavy traces.

Bergh, Gustaf Fr., reports an evident contamination of calcium carbonate with sulphate.—Svensk. farm. Tidskr., 1908, v. 12, pp. 469–472.

CALCII CHLORIDUM.

Hills, Walter, states that when calcium chloride is tested for lead, according to the method outlined, the latter should not exceed 20 parts per million.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 15.

Smith, Kline & French Co. (Analytical Report, 1908, p. 14) report that the 1 sample of calcium chloride examined by them contained an abnormal amount of magnesium and alkalies, and was low in strength. (See also Proc. Pennsylvania Pharm. Ass., 1908, p. 74.)

Dohme and Engelhardt rejected a lot of calcium chloride, "U. S. P.," which contained about 28 per cent of magnesium chloride.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 816.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 9) report examining a sample of calcium chloride which was found to contain the equivalent of 91.4 per cent of $\text{CaCl}_2 \cdot 2\text{H}_2\text{O}$ by titration with sodium carbonate.

An abstract calls attention to the usefulness of large doses of calcium chloride in hæmorrhage.—Dental Cosmos, 1908, v. 50, p. 185.

An editorial calls attention to the suggestion made by McCallum and Voegtlin (Johns Hopkins Hospital Bull., 1908, 19, p. 91) that the symptoms following the removal of the parathyroids may be abolished by the injection of calcium salts.—J. Am. M. Ass., 1908, v. 50, p. 1043.

An unsigned article states that L. Rénon has found calcium chloride surprisingly efficacious in arresting albuminuria.—*Ibid.*, 1908, v. 50, p. 689.

CALCII HYPOPHOSPHIS.

Hills, Walter, suggests that the assay process for calcium hypophosphite should be replaced by one based upon Jowett's work. Lead should not exceed 10 parts per million.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 6.

Cammas employs hypodermic injections of pure calcium hypophosphite to return mineral salts to the organism of invalids in a state of demineralization (tuberculosis, neurasthenia, etc.).—Répert. d. pharm. Par., 1908, v. 20, p. 233.

Merck's Ann. Rep., 1908 (Darmstadt, 1909, v. 22, pp. 165–166), discusses the therapeutic value of calcium hypophosphite and its use as a reagent for arsenic.

CALCII PHOSPHAS PRÆCIPITATUS.

Bassett, Henry, jr., presents an additional contribution to an exhaustive study of calcium phosphate and the nature of a series of so-called basic salts.—Ztschr. f. anorg. Chem., 1908, v. 59, pp. 1–55.

Simmons and Morson discuss the so-called Ph. Brit. calcium phosphate, under which name, they say, two entirely different phosphates of lime have been officially known in Great Britain.—Chem. & Drug., Lond., 1908, v. 73, p. 787.

Barillé, A., discusses the action of ammonium citrate on calcium phosphate.—Ann. de chim. analyt., Par., 1908, v. 13, pp. 264–266. (See also Répert. d. pharm. Par., 1908, v. 20, pp. 196–199.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 15) examined 9 samples of calcii phosphas præcipitatus. The strength of 6 ranged from 74.4 to 99.7 per cent; 2 contained arsenic and 2 contained an excessive amount of chlorides.

Blome, Walter H., reports on some samples of precipitated calcium phosphate containing strong traces of chloride.—Proc. Michigan Pharm. Ass., 1908, p. 91.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 9) report finding both lead and iron in appreciable quantities in several samples of calcium phosphate examined by them, although in the majority of cases only traces of the former were present. No more than 4 parts of arsenic per million occurred in any sample examined.

Fyfe, John William, asserts that in chronic wasting diseases the phosphate of lime exerts a tonic influence which is often of the greatest value to the patient.—Eclectic Rev., 1908, v. 11, pp. 46–48.

CALCII SULPHAS EXSICCATUS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 15) report that of 2 samples of exsiccated calcium sulphate examined 1 contained an excess of hydrated calcium sulphate.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 74.

Merck's Ann. Rep., 1908 (Darmstadt, 1909, v. 22, pp. 166-167), discusses the use of calcium sulphate as a local application to the pustules of variola and for dry dressings.

CALENDULA.

Farwell, A. O., asserts that the cultivation of marigold flowers for commercial purposes is carried on in Texas on a small scale. Samples of these have come to hand, but examination shows that instead of being the true marigold flowers (*Calendula officinalis*, Lin.) they are the fetid marigold (*Tagetes erecta*, Lin.). In gathering these the entire flowering head is picked instead of the ray flowers only.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Kebler, L. F., asserts that six samples of calendula were found to contain ash ranging from 49.16 to 51.81 per cent, the chief adulterant being calcium sulphate. Aside from being heavily adulterated with inorganic salts the samples were colored with aniline dye.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 778.

Foltz, K. O., asserts that calendula is useful in conjunctivitis, especially with a tendency to muco-purulent or purulent secretions.—Eclectic M. J., Cincin., 1908, v. 68, pp. 33, 378.

Fyfe, John William, discusses the local use of calendula and asserts that as a local anodyne it is as positive as opium, if not more effectual.—Eclectic Rev., 1908, v. 11, pp. 344-346.

Homsher, R. D., reports that he used marigold recently for a pain in region of the liver, which left a short time after its use, but it seemed to produce an astringent effect on the bowels, causing slight constipation.—Tr. Nat. Elect. M. Ass., 1908, v. 36, p. 85.

CALUMBA.

Hills, Walter, presents a new monograph for calumba which he believes more accurate than, and should therefore be substituted for, the present one.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, pp. 6-7.

Feist, K., reports observations on the nature and chemical characteristics of the alkaloids of calumba.—Ztsch. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, pp. 259-260.

Brown, George S., reports that the 10 specimens examined were uniformly bad.—Proc. Louisiana Pharm. Ass., 1908, p. 61.

Philipp Röder (Jahresbericht, Wien, 1908, p. 115) reports on 2 samples of calumba which contained 13.61 and 5.22 per cent of ash, respectively, the Ph. Austr. VIII limit for ash being 6 per cent.

Beringer, George M., outlines a formula for fluid glycerate of calumba.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 987.

CALX.

Hills, Walter. believes that only lime made from marble should be official. It is purer and more suitable for making liquor calcis saccharatus than that made from chalk or limestone.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 7.

Lorenzen, J., suggests that the Ph. Germ. require that lime be prepared from white marble so as to insure a greater degree of purity.—Apoth. Ztg., Berl., 1908, v. 23, p. 295.

Pöpel, Max, outlines a simple method for the estimation of calcium oxide in lime. The method depends on the liberation of ammonia from a neutral salt, preferably the chloride.—Ztschr. f. ang. Chem., 1908, v. 21, p. 2080.

Nowicki, R., discusses the above and asserts that calcium carbonate will, on continued boiling, also liberate ammonia from a neutral salt like ammonium chloride.—*Ibid.*, 1908, v. 21, p. 2318.

Kebler, L. F., reports on a sample of calcium peroxide, 59 per cent pure.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 775.

Smith, Kline & French Co. (Analytical Report, 1908, p. 15) report examining 1 sample of lime made from oyster shells which assayed only 80 per cent; it contained an excess of carbonates.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 74.

Thomann, J., reviews and comments on a communication by P. Auer (Archiv. f. Hygiene, 1908, v. 67, Heft 3) on the disinfecting value of lime and milk of lime.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 787.

CALX CHLORINATA.

Lehn & Fink (Annual Report for 1908, p. 13) point out that when the container of chlorinated lime is opened the chlorine content falls rapidly. They think the official method of assay is awkward and suggest one that is thought to be more convenient.

Dohme and Engelhardt report having some difficulty in purchasing chlorinated lime. Several shipments assayed much below the required 30 per cent of available chlorine.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 816.

Army, H. V., reports on 9 samples of chlorinated lime examined; none were of pharmacopœial strength, but varied from 0.1 per cent (a very old sample) to 28.5 per cent.—Proc. Ohio Pharm. Ass., 1908, p. 89. (See also Midland Druggist, 1908, v. 10, p. 15.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 15) report examining 5 samples of chlorinated lime, assaying from 15.8 to 42 per cent available chlorine.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 74.

Fitz-Randolph, R. B., reports that of 25 samples examined, 18 were deficient in available chlorine.—Rep. New Jersey Bd. Health, 1908, p. 225.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 5 samples of calx chlorata, 2 genuine and 3 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

An editorial calls attention to a new form of calcium hypochlorite containing as much as 80 to 90 per cent of available chlorine. The product is said to be made by passing chlorine gas through milk of lime, filtering the resulting solution and concentrating in vacuo.—J. d. Pharm. v. Elsass-Lothringen, 1908, v. 34, p. 248. (See also Proc. Am. Pharm. Ass., 1909, v. 57, p. 237.)

CALX SULPHURATA.

Hills, Walter, recommends that the assay of calx sulphurata be made in a stoppered flask to avoid loss of hydrogen sulphide.—Rep. (2d. interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 7.

Thatcher, R. W., presents observations on the reaction between lime and sulphur and points out the variability in composition of the resulting mixture as formed either in concentrated solutions or in solutions prepared in an open vessel.—J. Am. Chem. Soc., 1908, v. 30, pp. 63-68.

Dohme and Engelhardt report rejecting several shipments of calcium sulphide on account of not yielding sufficient sulphuretted hydrogen.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 816.

Blome, Walter H., reports on 1 sample of calcium sulphide containing iron and sand.—Proc. Michigan Pharm. Ass., 1908, p. 91.

Rice, J. M., discusses the therapeutic properties of calcium sulphide and the methods of administration adapted to veterinary practice.—Vet. J., Lond., 1908, v. 64, pp. 207-209.

Foltz, K. O., asserts that calcium sulphide (Hepar sulphur of the homœopathic pharmacy) is a potent remedy in all cases where there is a tendency to pus formation.—Eclectic M. J., Cincin., 1908, v. 68, p. 33. (See also pp. 403-404.)

CAMBOGIA.

The therapeutic committee of the British Medical Association suggests that gamboge be deleted from the Ph. Brit., as it is unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 319.)

Rusby, H. H., found gamboge containing 25 per cent corn starch.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 769.

Patch, E. L., reports on 2 samples which were found to be 31 and 32 per cent insoluble in alcohol, respectively, though the per cent of ash

(1.6 per cent) was well within the U. S. P. limitations.—*Ibid.*, 1908, v. 56, p. 769.

Smith, Kline & French Co. (Analytical Report, 1908, p. 15) report that of 2 samples of gamboge examined by them one contained 33.3 per cent material insoluble in alcohol, the other 25 per cent.

Woolsey, J. F., reports on 1 lot of gamboge yielding 71 per cent to alcohol and 10.4 per cent ash on ignition, which was rejected.—Proc. Pennsylvania Pharm. Ass., 1908, p. 84.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 16) report that the ash of 4 samples of gamboge examined by them ranged from 0.5 to 1.6 per cent.

CAMPHORA.

Hills, Walter, reports that synthetic camphor should not at present be admitted, as it is not identical with the natural. In order to exclude the synthetic drug, the requirement should be made that camphor should melt at 175° , and that a solution of 25 gm. in sufficient alcohol (90 per cent) to produce 100 c. c. at 16° C. should exhibit an optical rotation of about $+10^{\circ}$ when examined in a tube 100 mm. long.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14) Lond., 1908, p. 7.

The report of the chemical examination commission of the Grand Duchy of Baden is quoted as authority for the statement that synthetic camphor is identical in its constitution and action with the natural product.—Pharm. J., Lond., 1908, v. 80, p. 243.

Hartley, W. N., discusses the absorption spectrum of camphor and concludes that the band observed in the spectrum belongs to camphor, and is accounted for by the juxtaposition of the CO and CH₂ groups in the molecule.—J. Chem. Soc., Lond., 1908, v. 93, pp. 961-965.

Hinrichs, Carl. G., reviews the early history, varied uses, and present production of camphor and discusses some of the problems involved in the synthesis of this article.—Nat. Druggist, St. Louis, 1908, v. 38, pp. 13-14.

Spruijt, J. A., discusses the chemical structure and chemistry of synthetic camphor and of camphen.—Pharm. Weekblad., 1908, v. 45, pp. 1001-1009.

The report of the Secretary of Agriculture points out that the outlook for the camphor industry in this country continues bright, in spite of the fact that the price of imported camphor has fallen from the abnormally high figure which was quoted when the work was begun.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 74.

Communications on the cultivation of camphor will be found in Drug. Circ., N. Y., 1908, v. 52, p. 55; Bull. Dept. Agric., Jamaica, 1908, v. 5, pp. 234-236; Pharm. Zentralh., 1908, v. 49, p. 350; Chem. & Drug., Lond., 1908, v. 72, p. 560.

"Xrayser" calls attention to an article by Percy Houseman, who asserts that there are two grades of Japanese camphor exported, both coarse grayish powders, technically known as "Samuel A" and "Samuel B." The writer does not tell us the origin of these curious designations.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 231.

Rivière, Ch., discusses the economic questions involved in the cultivation of camphor in Algiers.—*J. d'Agric. Trop.*, Par., 1908, v. 8, pp. 129–132, 360–362.

An editorial discusses the impending changes in camphor distribution and points out that the Japanese Government is about to make extensive changes in its method of marketing camphor.—*Oil, Paint, and Drug Reporter*, New York, 1908, v. 73, February 3, p. 7. (See also *Pharm. J.*, Lond., 1908, v. 80, p. 377.)

Gehe & Co. (*Handels-Bericht*, 1908, pp. 21–23) discuss the economic conditions prevailing in connection with camphor and the production of the synthetic product.

Kempf, Richard, discusses the vacuum sublimation of camphor. He finds the melting point of the substance purified in this way to vary from 178.5° to 179° C. in place of 176.4° C., the melting point for the commercial material as given in the literature.—*J. f. prakt. Chem.*, Leipz., 1908, v. 78, p. 253.

Bredt, J., presents a report on experimental work on the constitution of camphor and its derivatives.—*Ann. d. Chem.*, Leipz., 1908, v. 366, pp. 1–70.

Komppa, Gust., presents a report on practical work on the synthesis of camphor and related compounds.—*Ibid.*, 1908, v. 368, pp. 126–155.

Kertkorn, J. (U. S. Pat. 901,709, Oct. 20, 1908), outlines a process for making camphor.—*J. Soc. Chem. Ind.*, Lond., 1908, v. 27, p. 1176.

An unsigned article presents a compilation of several tests that have been proposed for differentiating natural from artificial camphor.—*Pharm. Zentralh.*, 1908, v. 49, p. 48.

Schimmel & Co. (*Semi-Annual Report*, Apr., 1908, p. 137), in commenting on the B. P. C. requirements for camphor, point out that for the characterization of camphor it would have been more nearly correct to indicate the melting point than the specific gravity; it melts between 175° and 176.5° C.

Schrötter and Weitzenböck record experiments which appear to indicate the relationship between camphor and cholestrol.—*Monatsh. f. Chem.*, Wien, 1908, v. 29, pp. 395–398, 749–751.

Brandel, I. W., discusses some of the recent literature on the origin, properties, and composition of oil of camphor.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 247, 271–273.

A correspondent points out that the Treasury Department now rules that synthetic camphor is to be admitted duty free, as the crude article.—Oil, Paint, and Drug Reporter, New York, 1908, v. 74, August 3, p. 9.

Smith, Kline & French Co. (Analytical Report, 1908, p. 15) examined 4 samples of natural and one of synthetic camphor. The synthetic very closely resembled the natural, but had a naphthalene odor.

Dohme and Engelhardt report that all the samples of camphor examined were specimens of natural camphor, with the exception, possibly, of 1, which had to be rejected on account of its odor and too low a melting point. Another lot was rejected on account of its dark color and disagreeable odor.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 816.

Scoville, W. L., found 2 lots of camphor containing oil and low in rotatory power.—*Ibid.*, 1908, v. 56, p. 768.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 10) report that the rotatory power of over 160 samples of camphor was found to lie (for 20 per cent solution in alcohol. w v) between $+8^{\circ} 40'$ and $+9^{\circ}$.

Sayre, E. A., asserts that the present preparation of camphorated oil is nice to look at, but looks should not be allowed to displace medicinal value. The use of cottonseed oil is, no doubt, a mistake, and it should be promptly displaced by a cheap grade of olive or other oil that is readily absorbed, as lard or other animal oil.—Proc. New Jersey Pharm. Ass., 1908, p. 107.

Richardson and Walton discuss the analysis of camphorated oil for camphor substitutes, and call attention to the relation between natural and synthetic camphor.—Analyst. London, 1908, v. 33, pp. 463-466.

"C. M. W. G." asks why the gravimetric method is always advocated for the determination of camphor and camphor liniment, when the camphor can be estimated in less than two minutes by the polarimetric method, and quite as accurately.—Pharm. J., Lond., 1908, v. 80, p. 241. See also p. 403.

Lythgoe, Hermann C., reports that the 2 samples of camphorated oil examined were found to be adulterated.—Rep. Massachusetts Bd. Health, 1908, p. 605.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, pp. 14, 17, 19) examined 610 samples of camphor liniment, 85 of which were not up to standard. See also Drug. Circ. N. Y., 1908, v. 52, p. 87.

Alley, A. M., examined 8 samples of camphor liniment, which varied from 3.4 to 23.8 per cent camphor: 3 had 20 per cent, one 23.8.—Proc. Massachusetts Pharm. Ass., 1908, p. 79.

Stanislaus, I. V. S., suggests that it would be desirable to develop a reliable method for determining the camphor content of the liniment and the spirit of camphor.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 48.

Gane and Webster point out that a rather more accurate figure in assaying spirit of camphor for the amount of camphor present can be obtained by using benzol in place of the petroleum ether for dissolving the precipitated camphor.—Drug Topics, New York, 1908, v. 23, p. 212.

Barnard, H. E., reports some observations on the possible deterioration of spirit of camphor made according to the U. S. P. directions. He concludes that the frequently expressed opinion that spirit of camphor loses strength because of volatilization is entirely erroneous. He has noticed no volatilization or deposit of camphor on the sides of the bottle.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 312.

Gane, E. H., asserts that the usual method of assaying spirit of camphor, by salting out the camphor and redissolving in petroleum benzin, is improved by substituting benzole as the solvent. A sample made strictly U. S. P. had a rotation of $4^{\circ} 5'$, corresponding to 9.8 per cent camphor. A sample certified by an analyst to contain but 7.5 per cent camphor had a rotation of 4° in 100 mm. tube, corresponding to 9.26 per cent camphor.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 768.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 373 samples of spirit of camphor, 28 being below standard. Five samples contained methyl alcohol.—See also Drug. Circ., N. Y., 1908, v. 52, p. 87.

Sayre, L. E., reports on 143 samples of spirit of camphor, only 58 of which were up to standard; in another series of 32 samples only 9 were of U. S. P. strength.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 60 ff.

Fitz-Randolph, R. B., reports that of 58 samples examined 38 varied from the pharmacopœial requirements.—Rep. New Jersey Bd. Health, 1908, p. 226.

Barnard, H. E., reports on 176 samples of spirit of camphor examined, 131, or 74.4 per cent of which were below the U. S. P. requirements.—Rep. Indiana Bd. Health, 1908, p. 328. (See also Proc. Indiana Pharm. Ass., 1908, pp. 77–82, and Pharm. Rev., Milwaukee, 1908, v. 26, p. 309.)

Fischer, Richard, reports on 194 samples of spirit of camphor analyzed, 46 per cent of the preparations were of official strength, 4 per cent above and 50 per cent below.—Rep. Dairy & Food Com., Wisconsin, 1909, p. 103. (See also Rep. Wisconsin Bd. Health, 1908, p. 42.)

Dunlap, Renick W., reports on 30 samples of spirit of camphor, 15 pure and 15 adulterated.—Rep. Dairy & Food Com., Ohio, 1909, p. 52.

Lythgoe, Hermann C., reports on 95 samples of spirit of camphor examined, 10 of which were adulterated. The adulterated samples varied from 60 per cent to 55 per cent of the pharmacopœial strength.—Rep. Massachusetts Bd. Health, 1908, p. 611.

CANNABIS INDICA.

Hills, Walter, believes that in view of the potency of this drug and the inferior quality of much that is imported from other countries than India the official drug should be restricted to the Indian variety.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 7.

Hugenholtz, C., discusses the use of cannabis as an article of indulgence and as a medicine. He reviews the history of the plant and includes a bibliography of articles dealing with the use and abuse of this drug.—Pharm. Weekblad, 1908, v. 45, pp. 1191-1201.

Hoooper, David, discusses the valuation of Indian hemp.—Pharm. J., Lond., 1908, v. 27, p. 80.

The same author contributes a paper on the charas of Indian hemp, giving a tabulated statement of analytical results taken from his report to the Indian Hemp Drug Commission of 1893-94.—Pharm. J. Lond., 1908, v. 81, pp. 347-348 (for discussion see p. 405). (See also Year-Book of Pharmacy, London, 1908, pp. 435-443.)

The report of the Bureau of Plant Industry points out that cannabis indica can be grown successfully in this country which is equal in physiological activity to the imported article.—Ann. Rep. U. S. Dept. Agric., 1908-9, v. 57, p. 280.

Francis, John M., asserts that it is possible to obtain in the United States American-grown cannabis indica equal in all respects to the imported and at a very much cheaper price.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 796.

Weigel, G., asserts that the export tax on cannabis indica has practically driven the true drug from the market, and that the article which is now available is chiefly of African origin, though Madagascar and Zanzibar are also supplying at least some of the drug.—Pharm. Zentralh., 1908, v. 49, p. 961.

Carr and Reynolds found some samples of cannabis indica to possess no characteristic physiological activity, while others have been found to have an exceedingly high value.—Pharm. J., Lond., 1908, v. 80, p. 543.

Kebler, L. F., reports on a sample of cannabis indica which consisted of staminate flowers and seeds of *C. sativa* mixed with corn meal and traces of chestnut leaves.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Rusby, H. H., reports that two shipments of *cannabis indica*, offered for import, were spoiled in curing. One other lot consisted largely of fruits or so-called seeds.—*Ibid.*, p. 793. (See also p. 768.)

Patch, E. L., reports the ether-soluble resin to range from 10.86 per cent to 12 per cent; the solid extract from 73.4 per cent to 93.2 per cent.—*Ibid.*, v. 56, p. 768.

Philipp Röder (Jahresbericht, Wien, 1908, p. 88) reports on 3 samples of genuine Indian *cannabis* which were found to yield from 12.75 to 16.04 per cent of alcohol extract.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xxxv), point out that, because of the export duty that is being levied by the Indian Government, genuine Indian *cannabis* is being held at an exorbitant price. They also report experiments with German drug, which they find to be equal to the genuine and much superior to the available drug of African origin.

Matthews, S. A., states that he has found that cannabin tannate acts like tannic acid when applied locally, but it has none of the therapeutic actions of *cannabis indica*, being practically inert.—J. Am. M. Ass., 1908, v. 51, p. 1780.

Crawford, Albert C., reviews the physiological work that has been done in connection with *cannabis indica*.—Am. J. Pharm., Phila., 1908, v. 80, pp. 327-328.

Chevalier presents a note on the pharmacology of *cannabis indica*.—Répert. d. pharm., Par., 1908, v. 20, p. 90. (See also Nouv. remèdes, Par., 1908, v. 24, pp. 32-36.)

Houghton and Hamilton report a pharmacological study of American *cannabis* (*Cannabis sativa*).—Am. J. Pharm., Phila., 1908, v. 80, pp. 16-20. (See also Therap. Gaz., Detroit, 1908, v. 32, pp. 26-28.)

Faringer, H. P., enumerates *cannabis indica* among the palliatives to be used in the treatment of migraine.—Hahnemann. Month., Phila., 1908, v. 43, p. 525.

Hockett, C. P., asserts that *cannabis indica* may be used instead of opium products on account of its pain-relieving qualities. It is also serviceable in cases of irregular muscular action.—Tr. Nat. Eclect. M. Ass., 1908, v. 36, pp. 82-83.

An unsigned article discusses the effects of the several narcotics and asserts that a majority of Europeans are unable to secure any effects from the use of *Cannabis*, apart from the resulting headache and malaise.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 30.

CANTHARIS.

Hills, Walter, describes and recommends the introduction of an assay for cantharis.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, pp. 7-8.

Beringer, George M., believes that the description of cantharides should be accompanied by an assay process, and the percentage of active principle fixed within reasonable limits attainable in commerce.—Am. J. Pharm., Phila., 1908, v. 80, p. 431. (See also Proc. New Jersey Pharm. Ass., 1908, p. 90.)

Bruder, Otto E. F., asserts that cantharides often dissappoints in its blistering property and points out that a standard for cantharidin content should be made official.—Nat. Druggist, St. Louis, 1908, v. 38, p. 16.

Rusby, H. H., reports one shipment of mylabris labeled cantharis.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 768.

Alcock, F. H., asserts that powdered cantharides yields from 21 to 35 per cent of extractive on aqueous infusion.—Year-Book of Pharmacy, London, 1908, p. 429. (See also Pharm. J., Lond., 1908, v. 27, p. 353.)

Philipp Röder (Jahresbericht, Wien, 1908, p. 39) reports on 4 samples of cantharides which varied from 6.10 to 8.05 per cent of ash.—The Ph. Austr. VIII limits the ash content to 8 per cent.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xc) discuss the testing of cantharides and point out that the several pharmacopœias permit an ash content of from 8 to 9 per cent and require a cantharidin content of from 6 to 8 per cent.

Beringer, George M., recommends the addition of glacial acetic acid to the alcohol directed for maceration of cantharides, so that the combined cantharidin will be liberated and the preparation represent the full activity of the drug.—Am. J. Phar., Phila., 1908, v. 80, p. 436. (See also Proc. New Jersey Pharm. Ass., 1908, p. 93.)

Ellinger, Alexander, reports some further studies on cantharidin and cantharidin immunity, with experimental observations of the action of cantharidin on hedgehogs and fowls.—Arch. f. exper. Path. u. Pharmacol., Leipz., 1908, v. 48, pp. 424-439.

Couture, Ella Richardson, in discussing the treatment of pelvic inflammation, asserts that cantharides is a remedy indicated when the "urine is hot, comes in drops with great anguish, and bright specks before the eyes."—Tr. Nat. Eclect. M. Ass., 1908, v. 36, p. 247.

CAPSICUM.

Hills, Walter, asserts that as the powdered fruit of *Capsicum minimum* can be distinguished from the powdered fruits of other species of *Capsicum* by the microscopical characters these should be described.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 8.

Schneider, Albert, reports 12 samples of capsicum; 3 pure and 9 adulterated.—Pacific Pharmacist, 1908-9, v. 2, p. 391.

Patch, E. L., reports that different samples yielded from 15 to 25.2 per cent alcoholic extract.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 768.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 46 samples of capsicum examined, 44 genuine and 2 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 77.

Vankerleed, Charles E., reports 3 assays of capsicum; 11.590 per cent lowest; 18.350 per cent highest; 15.373 per cent average. Three above standard.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 88.

Woolsey, J. F., reports that the ash from powdered capsicum usually contains an excess of matter insoluble in acid, which the millers claim to be "sand resulting from the milling."—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 82.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 79) reports on 6 samples of capsicum which were found to contain from 5.24 to 6.43 per cent of ash.

Barnard, H. E., reports on 48 samples of tincture of capsicum analyzed, 24 pure and 24 illegal.—*Rep. Indiana Bd. Health*, 1908, p. 333.

An editorial discussing the therapeutics of capsicum points out that older practitioners frequently added capsicum to quinine; "with tincture of myrrh and alcohol it constitutes the compound tincture of myrrh, or the classic No. 6 of the old timers."—*Eclectic. M. J.*, Cincin., 1908, v. 68, pp. 62-64.

CARBO ANIMALIS.

Kebler, L. F., reports on 2 samples of purified animal charcoal: 1 contained 74.5 per cent of ash, the other 81.87 per cent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 775.

CARBO LIGNI.

Hills, Walter, recommends that the ash limit for carbo ligni should be raised to 10 per cent, as the best qualities in commerce may contain more than 7.5 per cent. A test with solution of potassium hydroxide should be introduced to guard against insufficient carbonization.—*Rep. (2d interim) Com. Ref. Genl. Med. Council* (Nov. 7 to Apr. 14), Lond., 1908, p. 8.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 10) report that the mineral matter of 12 samples of so-called wood charcoal in powder examined by them ranged from 2.6 to 22.45 per cent. Heavy traces of iron were noticed in some samples.

CARBONEI DISULPHIDUM.

Hills, Walter, suggests that the official name should be "Carbon disulphidum," and bisulphide of carbon should be given as a synonym.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 8.

Taylor, Edward R., describes, with illustrations, the process and apparatus for the production of carbon disulphide in the electric furnace.—J. Frankl. Inst., Phila., 1908, v. 165.

Lehn & Fink (Annual Report for 1908, p. 14) point out that carbon disulphide almost invariably contains a small amount of free sulphur, which remains as a residue after the evaporation of the liquid. They think that the requirement, that a portion spontaneously evaporated in a glass vessel should leave no residue, is too rigid.

An abstract presents a discussion on ways and means for preventing accidents in connection with the racking off of carbon disulphide or ether.—Chem. Ind., Berl., 1908, v. 31, pp. 115–116.

CARDAMOMUM.

Hills, Walter, believes that as the fruits of genuine cardamoms are more easily identified than the seeds, the fruits should be made official. To exclude lean and shriveled fruits the words "plump," and "or nearly smooth" should be introduced into the description.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 8.

Buschmann, E., reports a pharmacognostic study of the several overground portions of the plant of *Elattaria cardamomum*, White and Mason.—Pharm. Post, Wien, 1908, v. 41, pp. 641–644, 653, 661–663, 669–671, 677–680, 685–686.

Spaeth, Eduard, discusses the origin and pharmacognostic characteristics of cardamom, the recognition of adulterants, and the requirements which should be made for a desirable drug.—Pharm. Zentralh., 1908, v. 49, pp. 601–603.

Philipp Röder (Jahresbericht, Wien, 1908, p. 80) reports on the ash content of 5 samples of cardamom which varied from 4.91 to 7.88 per cent. He points out that the Ph. Austr. VIII limit of 10 per cent is too high, and that a permissible ash content of 8 per cent would be quite sufficient.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 10) report the following results of their examination of 2 samples of cardamom oil: Sp. gr. 0.931 and 0.935; optical rotation. + 32° 36' and + 33° 0'; each soluble in 4 volumes of 70 per cent alcohol.

Brandel, I. W., in a review of commercial oil of cardamom, asserts that Ceylon cardamom oil is no longer distilled from the fruits of *Elattaria cardamomum*, var. B., but from another species. He gives

the constants of this oil; also of an oil of wild cardamom, and of a Cameroon cardamom oil.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 90.

Heinrich Haensel (Half-Yearly Report, Apr., 1908, p. 8) reports that the last working of cardamom oil yielded 3.75 per cent of oil which had a specific gravity of 0.937.

CARUM.

The therapeutic committee of the British Medical Association thinks that carui fructus and aqua are unnecessary, the oil alone is sufficient.—Pharm. J., Lond., 1908, v. 27, p. 811.

Spaeth, Eduard, discusses the pharmacognostic characteristics of caraway, the composition of the true drug, the adulterants met with, and the detection of the latter.—Pharm. Zentralh., 1908, v. 49, pp. 604, 605.

Rusby, H. H., reports that one shipment of caraway seed was *Nigella*.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 768, 790.

Petkoff, N., reports 5 samples of powdered caraway which contained from 10.3 to 11.9 per cent of ash. One sample, powdered by himself, yielded but 6.41 per cent of ash. The alkalinity of the ash did not vary materially.—Ztschr. f. öffentl. Chem., 1908, v. 15, p. 82.

CARYOPHYLLUS.

The therapeutic committee of the British Medical Association thinks that caryophyllum and its infusion are unnecessary, the oil is sufficient.—Pharm. J., Lond., 1908, v. 27, p. 811.

Spaeth, Eduard, discusses the requirements for cloves and describes the various adulterants and methods for their detection.—Pharm. Zentralh., 1908, v. 49, pp. 569–572.

Macmillan, H. F., enumerates *Eugenia caryophyllata* as one of the plants acclimated in Ceylon from South India.—Circ. & Agric. J. Roy. Bot. Gard., Ceylon, 1908, v. 4, p. 66.

Rosenthaler, L., discusses the ferric chloride reaction and reports a number of experiments to show that the resulting color is due to a tannin-like body, rather than eugenol.—Pharm. Zentralh., 1908, v. 49, pp. 647–648.

Bohny, Paul, discusses the contamination of cloves with stems, and points out that the older Swiss limitation of 5 per cent of stems corresponded more closely with actual findings than does the newer 2.5 per cent limitation.—Schweiz. Wchnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 545–546.

Kebler, L. F., reports on 2 samples of cloves which contained mustard hulls and leguminous seed.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Schneider, Albert, reports on 7 samples of cloves, adulterated with clove stems, wood, foreign vegetable tissue, and nutshells.—*Pacific Pharmacist*, 1908-9, v. 2, p. 391.

Fitz-Randolph, R. B., reports that of 75 samples of cloves examined, 8 were adulterated.—*Rep. New Jersey Bd. Health*, 1908, p. 221.

An abstract from the "Medical Council" discusses the use of cloves as a remedy in the treatment of ailments of the gastro-intestinal tract.—*Drug Topics*, New York, 1908, v. 23, pp. 97-98.

CASSIA FISTULA.

Hills, Walter, believes that as cassia pulp is not simply the pulp mechanically separated from the fruits, but rather a galenical preparation of the fruits, there should be separate monographs to replace the present one in the *Ph. Brit.*—*Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14)*, Lond., 1908, p. 9.

CATAPLASMA KAOLINI.

Caldwell, Paul, comments upon the difficulty encountered in the making of cataplasm of kaolin. The quantity of glycerin in the pharmacopœial formula is excessive; it should not be over 325 grams. He details his method and says that the U. S. P. quantity may be conveniently made in a gallon mortar by hand. He would not suggest any larger quantity being made in that way, as there is no politician who can equal it for "pull."—*Drug. Circ.*, N. Y., 1908, v. 52, p. 548.

Hankey, Wm. T., again points out the fact that the unsatisfactory results obtained in making cataplasm of kaolin are due to kaolin contaminated with carbonates.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 94.

Brown, George S., reports that 10 of the 15 samples examined showed marked evidence of deterioration and for the most part seemed to have been carelessly prepared. He notes that it is the hygroscopic property of the preparation which gives it therapeutic value, but if this affinity for moisture shall have been satisfied by careless exposure to the atmosphere it will fail absolutely in its mission.—*Proc. Louisiana Pharm. Ass.*, 1908, p. 62.

Fussel, M. Howard, can imagine no good reason for the continuance in the U. S. P. of the formula for clay poultice. He asserts that the mixture is useless, and its recognition would appear to give the manufacturing firms a good basis for recommending its use.—*Tr. Am. M. Ass., Sec. Pharm., and Therap.*, 1908, p. 18.

CAULOPHYLLUM.

Beringer, George M., outlines a formula for fluid glycerate of caulophyllum.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 988.

Jones, E. G., discourses on the true action of caulophyllum. He asserts that in rheumatism of the wrist and fingers it is the best remedy that we have, and that for the prevention of premature labor there is no remedy that can compare with it.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 369.

CERA ALBA.

The therapeutic committee of the British Medical Association suggests that white wax be deleted from the *Ph. Brit.*, as yellow wax and spermaceti are sufficient.—*Pharm. J. Lond.*, 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 319.)

Hills, Walter, believes that, as chemical methods of bleaching wax are now so commonly employed, comparatively little wax is bleached by other methods, white wax should be described as "yellow wax, bleached."—*Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14)*, Lond., 1908, p. 10.

Berg, Ragnar, presents a preliminary communication on the chemistry of wax; the portion that is not readily saponified, the alcohol-soluble free acids, and the determination of minute quantities of stearin or stearic acid in beeswax.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 777-780.

Vosseler, J., discusses the substitutes and adulterants of beeswax and points out the advisability of marketing only a pure and otherwise desirable article.—*Der Pflanze*, Tanga, 1908, v. 4, pp. 113-118.

Rupp, E., commends the *Ph. Helv. IV* method for determining the acid and the ester number of wax as being more practical than the *Ph. Germ.* method.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 222.

McKesson, Donald, asserts that beeswax and white wax are familiar to all as needing watching and still appear adulterated from time to time, paraffin being principally used.—*Proc. N. W. D. A.*, 1908, p. 107.

Lehn & Fink (*Annual Report for 1908*, p. 14) point out that the saponification value of bleached wax often runs one or two points above the present upper limit of 96. Such is not the case with natural wax.

Baird, J. W., quotes from the *Summary of Drug Statistics of the State Board of Health for 1906*, 8 samples of white beeswax examined, 3 genuine and 5 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 77.

Fischer, Richard, reports on 88 samples of white wax: 34 or 39 per cent of the total were found to be adulterated.—*Rep. Dairy & Food Com.*, Wisconsin, 1909, p. 102. (See also *Proc. Wisconsin Pharm. Ass.*, 1908, p. 41.)

Sayre, L. E., reports that one sample of beeswax examined contained over 50 per cent of paraffin.—Bull. Kansas Bd. Health, 1908, v. 4, p. 184.

Gane and Webster examined 5 brands of white wax, which varied in specific gravity from 0.928 to 0.960, and in melting point from 58 to 63.5. The acid number varied from 12 to 21 and the saponification number from 33.25 to 97.76. Two of the samples were adulterated with paraffin.—Drug Topics, New York, 1908, v. 23, p. 165.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 5) point out that the bleached beeswax of commerce gives a higher acid value than the yellow variety: the specific gravity is also higher and the melting point slightly lower. The 25 samples examined during the year gave figures within the following limits: Acid value, 19.6 to 23.1; ether value, 70.2 to 77.3; sp. gr., 0.964 to 0.973; melting point, 62° to 64° C. Only one adulterated specimen was noted.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 43–45) reports on 9 samples of white wax, 2 of them adulterated, 1 with stearin and paraffin and the other with paraffin or ceresin.

van Wermeskerken, J. L., reports several samples of white wax which had a specific gravity of from 0.949 to 0.952, a melting point of from 61° to 62° C., an acid number of 13 to 14.9, and a saponification number of 42.5.—Pharm. Weekblad., 1908, v. 45, p. 212.

CERA FLAVA.

Hills, Walter, submits a monograph on *cera flava* to be substituted for the present one.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, pp. 10–11.

Beringer, George M., suggests that a more correct definition of yellow wax would be “a natural secretion forming the wall of the honeycomb of the hive bee *Apis mellifera* Linné (Order Hymenoptera), purified, after removing the honey, by melting with water, separating, and straining.”—Am. J. Pharm., Phila., 1908, v. 80, p. 431. (See also Proc. New Jersey Pharm. Ass., 1908, p. 89.)

Harvey, T. F., suggests that, in place of the tests now directed to be made by boiling the wax with water and with aqueous soda solution, Buchner's test for stearic acid, resin, Japan wax, etc., be introduced.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Dieterich, Karl, discusses the analysis of beeswax in the several stages of its production or age, also discusses bees' resin or “propolis,” which is used by honey bees to fasten the honey comb to the walls of the hive, also to inclose or coat over decomposing materials that may be present in the hive.—Ztschr. d. allg. österr. Apoth.-Ver. 1908, v. 46, pp. 211–213.

Pinchbeck, G., thinks that the greater latitude in density (0.951 to 0.960 at 25° C.) and melting point (61° to 64° C.) allowed by the B. P. C. in contrast with the Ph. Brit., is justifiable, as frequently samples of highly refined wax will show abnormal physical constants.—Pharm. J., Lond., 1908, v. 26, p. 671.

Gane, E. H., found samples of yellow wax from India, Cuba, Morocco, China, Tahiti, and Germany to be all pure. The specific gravity varied from 0.953 to 0.963, the melting point from 62° C. to 65.5° C., the saponification number from 92.7 to 100, and the acid number of 4 of the samples from 18.8 to 19.9.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 774. (See also Drug Topics, New York, 1908, v. 23, p. 181.)

The Bureau of Chemistry reports on the examination of 26 samples of beeswax, of which number 14 samples were either adulterated or pure substitutes. The beeswax present varied from 25 to 50 per cent of the whole, the remaining portion being paraffin, stearic acid, and other waxes.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 436.

Smith, Kline & French Co. (Analytical Report, 1908, p. 15) report 29 samples of yellow wax examined; 17 were of U. S. P. quality, 4 were too dark; the saponification numbers varied from 80 to 98.1; 1 had a melting point of 65° C.; 1 had an acid number of 27.1; 1 had a specific gravity of 0.9906 and an acid number of 6; 1 contained stearic acid.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 25 samples of yellow wax, 19 of which were below standard.

Barnard, H. E., reports on 13 samples of yellow beeswax examined, only 2 of which were found to be adulterated.—Rep. Indiana Bd. Health, 1908, p. 318.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 5) report that 80 samples of yellow beeswax, imported, gave constants falling in the main within the commonly accepted limits. Three consignments from different sources differed as follows: Acid value, 6 to 19; ether value, 30 to 79; specific gravity, 0.930 to 0.966; melting point, 58° to 64.5° C. Three samples offered as genuine were adulterated with paraffin and stearin.

Philipp Rüder (Jahresbericht, Wien, 1908, pp. 40-43) reviews a number of tests proposed for detecting the adulteration of yellow wax and reports on 7 samples, 2 of which were found to be adulterated; 1 contained stearin and paraffin and the other paraffin artificially colored.

CERATUM.

Diekman, Geo. C., thinks that the formula for cerate is an improvement over that in the U. S. P. VII, but believes that the temperature for preparing this and similar preparations should be de-

finitely stated, and that directions for keeping the product should be included in the pharmacopœia.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 82.

Good, James M., suggests the substitution of paraffin for white wax in the formula for cerate.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 972.

Hallberg, C. S. N., asserts that while it may be desirable to bring the petroleum to a firmer consistency by melting it with paraffin, great care must be used in order that ozokerite, which is very often substituted for paraffin, is not employed because such earth wax will not make a homogeneous solid, but becomes granular.—*Ibid.*, p. 975.

CERATUM CAMPHORÆ.

Diekman, Geo. C., thinks that camphor cerate is little used and is really of little value.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 82.

CERATUM CANTHARIDIS.

Diekman, Geo. C., thinks that the official process for making cantharides cerate does not call for a sufficiently high temperature to extract all of the cantharides and suggests, as an improvement, the extraction of the cantharides with a suitable solvent.—Am. Druggist, N. Y., 1908, v. 52, p. 90. (Bull. Am. Pharm. Ass., 1908, v. 3, p. 82.)

Beringer, George M., suggests macerating the cantharides with 20 cc. acetic acid for 24 hours prior to adding it to the resin, yellow wax, lard, and liquid petrolatum.—Am. J. Pharm., Phila., 1908, v. 80, pp. 433-434. (See also Proc. New Jersey Pharm. Ass., 1908, p. 92.)

CERATUM RESINÆ.

Good, James M., recommends allowing the strained fats to cool undisturbed and asserts that this will yield a product that is more likely to be smooth.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 972.

CERATUM RESINÆ COMPOSITUM.

Diekman, Geo. C., points out that the toughening that takes place in compound resin cerate on standing is sometimes objected to, but is really not a fault.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 82.

CERII OXALAS.

The report of the therapeutic committee of the British Medical Association, in suggesting the deletion of cerium oxalate, asserts that it does not possess the specific action attributed it.—Suppl. Brit. M. J., Lond., 1908, v. 2, p. 319.

Hills, Walter, says that, if this preparation is retained, it is necessary to know whether pure cerium oxalate or the commercial salt containing indefinite quantities of lanthanum and didymium is required.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 11.

Beringer, George M., points out that the title "cerium oxalate" should be modified so as to show that it is the so-called "medicinal, commercial, or admixed" salt that is official and not the pure, definite salt.—Am. J. Pharm., Phila., 1908, v. 80, p. 433. (See also Proc. New Jersey Pharm. Ass., 1908, p. 91, and report of the A. Ph. A. Committee on U. S. P.; Proc. Am. Pharm. Ass., 1908, v. 56, p. 527.)

Browning and Palmer report observations on the estimation of cerium in the presence of the other rare earths by the action of potassium ferrieyanide.—Am. J. Sc., 1908, v. 26, pp. 83-84.

Pettit, H. M., states that while oxalate of cerium is considered invaluable by some physicians, it is practically ignored by the most of them.—Proc. Missouri Pharm. Ass., 1908, p. 118.

Kopp suggests the use of cerium oxalate in the treatment of the vomiting of pregnancy, particularly when all other remedies fail.—Hahnemann. Month., Phila., 1908, v. 43, p. 792.

Baehr and Wessler discuss the use of cerium oxalate for the relief of vomiting and record an experimental study of the effects of some salts of cerium, lanthanum, praseodymium, neodymium, and thorium. They conclude in part that commercial cerium oxalate is nontoxic, that it has no inhibitory effect whatever on vomiting of central origin, and that it may inhibit vomiting due to local irritation of the gastric mucosa, but only if given in large doses for some time, so as to coat the stomach wall pretty generally.—Arch. Int. Med., 1908, v. 2, pp. 517-531.

CETACEUM.

Hills, Walter, submits a monograph to replace the one at present official for cetaceum.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 11.

Dunlop, Harry, discusses the testing of sperm oil and spermaceti and presents a table giving the physical and chemical constants of a number of samples of spermaceti.—J. Soc. Chem. Ind., Lond., 1908, v. 27, pp. 63-65. (See also Pharm. Zentralh., 1908, v. 49, p. 525.)

Harvey, T. F., reports that good samples of spermaceti are met with, melting as low as 44.5° C. The range allowed might be 44.5° to 49° C., and the saponification value 117 to 130. Four samples, melting at 47° to 49°, and apparently pure, had saponification values of 114 to 115.5. A maximum limit of 6 to 7 per cent for the iodine value might be included, insuring comparative freedom from sperm oil.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 45) points out that spermaceti does not yield itself readily to adulteration, as the addition of any appreciable amount of foreign substances readily changes its physical properties. The 5 samples reported on were all genuine.

CHARTA SINAPIS.

Hills, Walter, asserts that if mustard paper is retained the formula must be revised.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 11.

CHIMAPHILA.

Farwell, A. O., asserts that the U. S. P. specifies the leaves only of pipsissewa; as generally found upon the market it is the entire plant—roots, stems, and leaves. The stems and roots should in all cases be rejected.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Beringer, George M., outlines a formula for fluid glycerate of chimaphila.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 988.

Turner, Maurice W., reviews the characteristics and indications for chimaphila umbellata. Among the indications for this drug are: Toothache, worse after eating and exertion, better by cool water; aching below right hypochondrium whilst writing; fluttering in kidney region and an opening and shutting pain in the right thigh.—Hahnemann. Month., Phila., 1908, v. 43, pp. 74–75.

Fyfe, John William, asserts that chimaphila is a remedy of some value in renal and vesical affections, especially when the urine is scant and loaded with a muco-purulent sediment. It is alterative, tonic, diuretic, and astringent.—Eclectic. Rev., 1908, v. 11, p. 261.

CHIRATA.

Hills, Walter, recommends adding to the description of chirata, "the root is oblique."—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 11.

Sayre, L. E., points out that the menstruum for fluid extract of chirata was changed from 47 per cent alcohol in U. S. P., 1890, to 38 per cent alcohol, U. S. P., 8th Revision.—Merck's Rep., N. Y., 1908, v. 17, p. 4.

Beringer, George M., outlines a formula for fluid glycerate of chirata.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 989.

CHLORALUM HYDRATUM.

Hills, Walter, believes that as the purity of chloral hydrate is sufficiently indicated by its physical appearance, melting point, etc., an assay process is not necessary. The solubility in water should be

stated as 1 in 40; the solubilities in glycerin and alcohol should remain as at present, but the solubility in chloroform should be omitted, as it serves no useful purpose.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, pp. 6 and 11.

van Rossem, C., discusses the system of chloral and water and reviews the physical and chemical properties of chloral and its combinations. The natural melting point of the monohydrate of chloral is given as 47.4° , while the anhydrous chloral melts at 57.5° C.—Ztschr. f. physik. Chem., 1908, v. 62, pp. 681–712.

Philipp Röder (Jahresbericht, Wien, 1907, pp. 47–48) discusses the several tests for hydrated chloral and points out that this substance usually melts at 54° to 58° C.

Wheeler, Alvin S., presents observations on the condensation of chloral with primary aromatic amines.—J. Am. Chem. Soc., 1908, v. 30, pp. 136–142.

Kebler, L. F., reports on 2 samples of hydrated chloral, which contained traces of chloral alcoholate and chloride.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 75.

Sollmann and Hatcher report a comparative study of the dosage and effects of chloral hydrate, isopral, and bromural on cats.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, pp. 50–96. (See also J. Am. M. Ass., 1908, v. 51, pp. 487–492.)

Faringer, H. P., enumerates chloral among the palliatives that are useful in the homœopathic treatment of migraine.—Hahnemann. Month., Phila., 1908, v. 43, p. 525.

Additional references on the use of hydrated chloral will be found in the Index Medicus and the J. Am. M. Ass.

CHLOROFORM.

The Pharmaceutical Journal (Lond., 1908, v. 26, pp. 22, 46, 76, 117) contains a number of interesting communications with reference to the discovery and history of chloroform as an anæsthetic.

Hills, Walter, believes that as chloroform, to which 2 per cent of ethyl alcohol has been added, keeps practically indefinitely and under all conditions, this addition should be made.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 11.

Dott, D. B., calls attention to the fact that the books give three different equations for the formation of chloroform from alcohol, one in which 2 molecules of alcohol yield 2 of chloroform, one in which 4 of alcohol yield 2 of chloroform, and one in which 3 molecules of alcohol yield 2 of chloroform. He notes, further, that when acetone and chloroform were mixed there was a considerable rise in temperature, nearly 10° C. being observed, by mixing in proportions of 2

molecules of chloroform to 1 of acetone.—Pharm. J., Lond., 1908, v. 80, p. 237. (See also Chem. & Drug., Lond., 1908, v. 72, p. 299.)

Mossler, Gustav, discusses the decomposition of chloroform by means of alcoholic solutions of alkalies.—Monatsh. f. Chem., Wien, 1908, v. 29, pp. 573–581.

Pearson, W. A., questions the sufficiency of the test for harmful products in chloroform that is to be used for anaesthesia. He believes that a small per cent of ethyl chloride seems to be advantageous.—Am. J. Pharm., Phila., 1908, v. 80, p. 76.

Stengel, Fritz, criticizes the Ph. Austr. VIII tests for chloroform and asserts that potassium hydrate containing more than 80 per cent of KOH will give a yellow coloration with all samples of chloroform, while potassium hydrate with less than 80 per cent of KOH does not give this coloration readily.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, pp. 279–280.

Dohme and Engelhardt have examined several makes of chloroform "*pro narcosi*," and have found that not one answered perfectly the requirements as laid down in the Ph. Ndl. They wish to emphasize again that the new U. S. P. should adopt a chloroform for anaesthetic use, with stringent requirements similar to those published in other pharmacopœias of recent date.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 815.

Kebler, L. F., reports on 5 samples of chloroform which contained considerable suspended impurity.—*Ibid.*, p. 775.

Scoville, W. L., asserts that chloroform frequently contains excess of chlorinated compounds.—*Ibid.*, p. 768.

Smith, Kline & French Co. (Analytical Report, 1908, p. 15) report examining 25 samples of chloroform. One gave a slight foreign odor on evaporation; 2 gave a dark color with sulphuric acid.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 74.

Heuisler, P. I., reports that several samples of chloroform were too low in sp. gr., apparently due to alcohol.—Proc. Maryland Pharm. Ass., 1908, p. 34.

Blome, Walter H., reports on 11 samples of chloroform. One sample was slightly acid. Some contained chlorinated products, impurities decomposable by sulphuric acid, or left an alliaceous odor upon evaporation.—Proc. Michigan Pharm. Ass., 1908, p. 91.

Hommell, P. E., asserts that the emulsion of chloroform is so seldom exhibited by the physician that it should be omitted by the U. S. P. Chloroform is more frequently administered in the form of the spirit of chloroform, combined with other agents.—Proc. New Jersey Pharm. Ass., 1908, p. 104.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 339 samples of chloroform liniment, 47 of

which were below standard.—See also *Drug. Circ. N. Y.*, 1908, v. 52, p. 87.

Niece, Frederic E., asserts that chloroform water is readily decomposed by light, heat, and exposure. Several by-products of an acid nature are the result, in which odors similar to hydrogen phosphide and decomposed marine algae have been observed. He asserts that a permissible addition of 4 per cent of alcohol produces a solution that will keep indefinitely.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1051.

Dowzard, Edwin, discusses the determination of chloroform in lozenges, outlines a method based on that proposed by Nicloux (*Comptes Rendus*, 1906, 142, 163), and concludes that chloroform lozenges vary greatly in keeping qualities, and that lozenges containing licorice extract appear to hold chloroform better than a plain sugar base; the extractive renders the base impermeable.—*Am. J. Pharm., Phila.*, 1908, v. 80, pp. 511-514.

Wells, H. Gideon, reports a case of chloroform necrosis of the liver, and reviews a number of cases of delayed chloroform poisoning reported in the literature under various titles.—*Arch. Int. Med.*, 1908, v. 1, pp. 589-601. (See also *J. Biol. Chem.*, 1908-9, v. 5, pp. 129-145.)

Fiessinger, Noel, in his study of the histogenesis of toxic cirrhosis of the liver, discusses chloroform cirrhosis.—*Compt. rend. Soc. de biol. Par.* 1908, v. 64, p. 649.

Doyon, Gautier, and Policard report on the action of chloroform, inhaled or ingested, on the urinary excretion of urobilin; relation to hepatic lesions.—*Ibid.*, v. 65, p. 574.

An editorial (*Brit. M. J. Lond.*, 1908, v. 1, p. 405) on deaths under anaesthetics at general hospitals, comments on the difference between chloroform made from acetone and that made from alcohol; also on the surprising lack of statistics as to the mortality under anaesthetics at the London hospitals. It would appear that the mortality at Guy's Hospital is double that on the Continent or in Dublin.—See also McNamara, J., *Ibid.*, p. 544.

Blain, Alexander W., jr., concludes a clinical study of general anaesthesia with the statement that chloroform is a dangerous drug, and should be totally eliminated from the armamentarium of the surgeon.—*N. York M. J.*, 1908, v. 87, p. 890.

Barcroft, Joseph, describes and illustrates the diminished activity of the heart caused by chloroform.—*Ergeb. d. Physiol.*, 1908, v. 7, pp. 728-729.

Fardon, Harold J., reports observations on the effect of chloroform anaesthesia on the mammalian uterus.—*Biochem. J., Liverpool*, 1908, v. 3, p. 420.

Gramm, J., in discussing the general management of puerperal convulsions, points out that the judicious inhalation of chloroform may in a measure modify the convulsion.—Hahnemann. Month., Phila., 1908, v. 43, p. 326.

A number of additional references on the use of chloroform, poisoning by accidents, and sequelæ may be found in the Index Medicus, the J. Am. M. Ass., the British Medical Journal, and the Lancet.

CHONDRUS.

Philipp Röder (Jahresbericht. Wien, 1908, p. 24) reports on 3 samples of chondrus which contained 18.67, 20.32, and 17.52 per cent of ash, respectively. The Ph. Austr. VIII limitation is 18 per cent. The iodine content of 2 samples was found to be 0.0103 and 0.0092 per cent, respectively.

CHROMII TROXIDUM.

Hills. Walter, asserts that the process given in the Ph. Brit. does not yield a product complying with the tests; it contains an excessive quantity of sulphuric acid.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 4.

Riesenfeld, E. H., discusses the decomposition of chromic acid by means of hydrogen dioxide.—Ber. d. deutsch. chem. Gesellsch., Berl., 1908, v. 41, II. pp. 2826–2835. (See also Chem. Ztg., Cöthen, 1908, v. 32, pp. 914–915.)

Gooch and Weed discuss the estimation of chromium as silver chromate.—Ztschr. f. anorg. Chem., 1908, v. 59, pp. 94–96. (See also Am. J. Sc., 1908, v. 26, pp. 85–86.)

Jableczynski, K., discusses the reduction of chromium trioxide by means of oxalic acid.—Ztschr. f. anorg. Chem., 1908, v. 60, pp. 38–49.

Kebler, L. F., reports finding sulphates in chromic acid.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 775.

Smith, Kline & French Co. (Analytical Report, 1908, p. 16) report finding 1 sample of chromium trioxide of poor quality, which contained only 40.3 per cent of chromium trioxide and a very large amount of sulphates.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 74.

van Wermeskerken, J. L., reports several samples of chromium trioxide contaminated with sulphuric acid.—Pharm. Weekblad., 1908, v. 45, p. 213.

CHRYSAROBINUM.

Hills. Walter, believes that as chrysarobin is a definite substance, and one only of the several constituents of araroba. Araroba Purificata would be a better name for the drug. He submits a mono-

graph to replace the one at present official.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, pp. 11-12.

Dott, D. B., says that the objection to the name chrysarobin, because the substance obtained by the official process is a mixture and not a definite chemical compound, is of doubtful validity. It is quite in accordance with pharmaceutical usage to give distinctive names to the extractives and resinoids which are well known to be mixtures. He thinks the characters and tests given by the Ph. Brit. can be improved and makes several suggestions.—Pharm. J., Lond., 1908, v. 27, p. 54.

Good, James M., thinks that the instruction to strain chrysarobin ointment is indefensible whatever way you look at it. It is a concession to the indolent and careless manipulator and removes from the product its only medicinal constituent.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 973.

Caspari, Charles, jr., discusses the official method of making chrysarobin ointment and asserts that the fact that chrysarobin is partly insoluble, and leaves more or less of an insoluble residue in the ointment, is a decided objection to those who use it and makes straining of the ointment imperative.—*Ibid.*, p. 977.

Hallberg, C. S. N., says that he has tried several vehicles for chrysarobin ointment, but always found that a portion of the chrysarobin remained undissolved; for this reason an excess of the active ingredients is used in the official ointment, which is directed to be strained to free it from insoluble matter, supposed to be inert, and to leave practically 5 per cent of chrysarobin represented in the ointment.—*Ibid.*, p. 976.

Friederich, Otto (Med. Klinik, 1908, p. 1870), reports three cases of poisoning from the administration of chrysarobin. He discusses the uses of chrysarobin and concludes that it can readily be dispensed with, as even when applied externally it frequently causes untoward secondary effects.—Apoth. Ztg., Berl., 1908, v. 23, p. 937.

CIMICIFUGA.

The therapeutic committee, B. M. A., suggests that cimicifuga rhizome and preparations be deleted from the Ph. Brit., as they have no important action.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Farwell, A. O., asserts that black cohosh, like pinkroot and some others, as found upon the general drug markets of this country, has more or less mud and sand adhering to the rootlets. The percentage by weight of mud and sand varies considerably, reaching sometimes as high as 50 or 60 per cent.—Merck's Rep. N. Y., 1908, v. 17, p. 34.

Holm. Theo., describes and illustrates *Cimicifuga racemosa* Nutt.: the illustrations showing inflorescence, the rhizome and the internal structure of the vegetative organs.—*Ibid.*, pp. 262–265.

Hills, Walter, suggests that the test for tannin should be made on an infusion of the drug, not upon the drug itself. The drug is not sufficiently potent to warrant the introduction of any attempt at assaying it.—Rep. (2d interim) Con. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 12.

Beringer, George M., outlines a formula for fluid glycerate of cimicifuga.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 989.

Foltz, K. O., asserts that cimicifuga (*Macrotys*) is useful in affections of the eye, when the surrounding tissues have a bruised feeling.—*Eclectic. M. J.*, Cincin., 1908, v. 68, p. 34.

Kopp, Frederick, asserts that cimicifuga racemosa is a very useful remedy in pleurisy after the alternate administration of aconite and bryonia.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 957.

CINCHONA.

Rosenthaler, L., discusses the requirements to be made for cinchona by the Ph. Germ. V. He points out that, in view of the fact that quinine is acknowledged as being the more valuable alkaloid, that species of bark should be recognized which is accepted as being richest in quinine. He presents a table giving the alkaloidal content of several commercial barks and suggests that *C. ledgeriana* be given the preference over *C. succirubra*, which is comparatively low in quinine content.—*Apoth. Ztg.*, Berl., 1908, v. 23, pp. 261–262.

Planchon, L., calls attention to false calisaya barks and some of their distinguishing characteristics.—*J. d. Pharm. v. Elsass-Lothringen*, 1908, v. 34, p. 156. (See also *Bull. pharm. du sud-est, Montpel.*, 1908, v. 13, pp. 205–206.)

Macmillan, H. F., includes *Cinchona calisaya* and *C. succirubra* among the plants acclimated in Ceylon, in 1861, from Peru and Bolivia.—*Circ. & Agric. J. Roy. Bot. Gard.*, Ceylon, 1908, v. 4, p. 66.

A correspondent states that cinchona cultivation remains practically stationary in Mysore.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 539.

The proposals of the Java Cinchona Syndicate are given, *Ibid.*, pp. 563, 838.

Upjohn, F. L., asserts that the idea prevalent in some quarters that the cinchona trees are being rooted up in Java to make room for tea plants is entirely erroneous. As a matter of fact, trees are rooted up every time a crop of bark is gathered. While tea culture in Java is undoubtedly on the increase it does not conflict with the production of quinine but rather with that of coffee, which is a dying industry on the island. Java coffee is really a thing of the past, as the grow-

ing of tea has proven to be cheaper and more profitable. The cinchona tree is allowed to grow from five to seven years before the bark is gathered. Trees are at their best at about seven years. Then they are literally rooted up and the bark stripped from the roots as well as from the trunk and main branches of the tree. Of course the process is fatal to the tree and only one lot of bark can be taken.—Pharm. Era, N. Y., 1908, v. 40, p. 89.

Rosenthaler, L., reports an investigation on the structural characteristics and alkaloidal content of *Cinchona robusta* and other hybrids, particularly such as are produced by grafting.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 126–134. (See also Pharm. Zentralh., 1908, v. 49, pp. 232–234.)

A book review calls attention to the volume by K. W. van Gorkom. "Scheikundige bijdragen tot de kennis der Java-kina, 1872–1907, J. H. de Bussy, 1908, pp. 136." This book contains a record of the work done in connection with the Government cinchona undertaking in Java, from 1872 to 1907.—Pharm. Weekblad, 1908, v. 45, pp. 637–639.

van Leersum, P., in his report as director of the Government cinchona stations in Java, calls attention to the economic conditions prevailing and adds a table giving a review of the status of the cinchona plantations in 1907 and another showing the alkaloidal content of various cinchona barks grown in different portions of Java. The alkaloids varied from 6.95 to 10.05 per cent.—*Ibid.*, pp. 349–352. (See also pp. 1121–1126.)

Veley, Victor Herbert, discusses the affinity of the cinchona group of alkaloids for hydrochloric acid and points out that the affinity value of one amino group is less than that of a hydropyridine, while that of the other is rather lower than that of quinoline.—J. Chem., Soc., Lond., 1908, v. 93, pp. 2114–2122.

Rammstedt, Otto, discusses the so-called fat of cinchona and reviews the available literature regarding it. He points out that the recent developments in the chemistry of cholesterins and phytostearins would have an important bearing on a renewed study of the composition of cinchona bark.—Apoth. Ztg., Berl., 1908, v. 23, p. 754.

Cohen, N. H., discusses the several methods suggested by Florence (Bull. des. sc. pharmacol., Par., 1906, v. 13, pp. 365–368) for determining the alkaloidal content of cinchona.—Pharm. Weekblad, 1908, v. 45, pp. 1089–1099. (See also D.-A. Apoth. -Ztg., N. Y., 1908–9, v. 29, pp. 99–100.)

Hills, Walter, believes that the Ph. Brit. assay process is defective and should be replaced by that of Alcock (Pharm. J., v. 67, p. 90), using a separating funnel instead of a bottle.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 26.

Parker, C. E., calls attention to two methods—total extraction method and aliquot part method—for the determination of alkaloids in cinchona bark and to several details of procedure which it is necessary to observe.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 130. (*Bull. Bur. Chem.*, U. S. Dept. Agric., 1909, No. 122.)

Moerk, Frank X., points out that in the U. S. P. assay for cinchona the resulting alkaloids are to be dried at 110° C., and the strength is stated in terms of anhydrous alkaloids, while under quinine the statement is made that it becomes anhydrous at 125° C.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 898.

Harvey, T. F., reports that the present assay process for cinchona preparations gives, in experienced hands, consistent results; the only necessary modifications being the substitution of dilute potash for water in the washing of the benzolated amylic alcohol liquors and the more liberal use of chloroform in the final extractions. In the case of the liquid extracts it is better to work on 2.5 c. c., adding an equal volume of the glycerin menstruum. The deposits which form in cinchona preparations have been found to contain alkaloid and to lead to diminution in the alkaloidal strength.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 905.

Umney and Bennet remark that the U. S. P. aliquot-part method for the assay of cinchona is objectionable, as the portion poured off actually contains more than half the ethereal layer.—*Pharm. J.* Lond., 1908, v. 27, p. 345. (See also *Yearbook of Pharmacy*, London, 1908, p. 514.)

Dolme and Engelhardt report that about 30 per cent of the samples of cinchona examined assayed below the U. S. P. standard. They consider that the U. S. P. assay method gives results that are too low, even with the modifications adopted later, and suggest that it might be advantageously replaced by Fromme's method, which gives higher and without doubt more accurate results.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 816.

Smith, Kline & French Co. (Analytical Report, 1908, p. 16) report finding 1 sample of cinchona with low alkaloidal content; total alkaloids 3.38 per cent, anhydrous ether-soluble alkaloids, 2.89 per cent. Another sample assayed 5.1 per cent anhydrous ether-soluble alkaloid.

Blome, Walter H., reports on cinchona calisaya, assaying from 3 to 7 per cent ether-soluble alkaloids.—*Proc. Michigan Pharm. Ass.*, 1908, p. 92.

Schneider, Albert, reports on 12 samples of cinchona; 6 pure and 6 adulterated. One was a mere substitution of foreign bark.—*Pacific Pharmacist*, 1908-9, v. 2, p. 391.

Heusler, P. I., reports that of 19 samples, 6 were inferior in alkaloids.—*Proc. Maryland Pharm. Ass.*, 1908, p. 34.

Blome, Walter H., reports on 1 sample of pale cinchona assaying 2.3 per cent of ether-soluble alkaloids.—Proc. Michigan Pharm. Ass., 1908, p. 92.

Vanderkleed, Charles E., reports 23 assays of cinchona bark; 2.850 per cent lowest; 10.020 per cent highest; 8.000 per cent average; 22 above and 1 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xvi) discuss the assay method given in the Ph. Helv. IV, for cinchona, and point out that it is desirable to provide both gravimetric and titrimetric methods of this type.

Philipp Röder (Jahresbericht, Wien, 1908, p. 49) discusses the Ph. Austr. VIII requirements for cinchona and reports on 23 samples, 9 of which were rejected.

Smith, Kline & French Co. (Analytical Report, 1908, p. 21) report the assay of 5 samples of fluid extract of cinchona; anhydrous ether soluble alkaloids in 100 cubic centimeters, from 2.3 to 4.52 gms.

Beringer, George M., outlines a formula for fluid glycerate of cinchona.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 989.

CINCHONA RUBRA.

Hills, Walter, says no change should be made in the variety of cinchona bark for official use. Preparations of cinchona are not administered for their quinine content only, and the use of the bark of *Cinchona succirubra* is well established in Great Britain and on the Continent.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 21.

Smith, Kline & French Co. (Analytical Report, 1908, p. 16) report finding 1 sample of cinchona rubra with low alkaloidal content; total alkaloids, 4.6 per cent.

Blome, Walter H., reports on 1 sample of red cinchona, assaying 6.26 per cent total alkaloids.—Proc. Michigan Pharm. Ass., 1908, p. 92.

Carr and Reynolds found that *Cinchona succirubra* varies from 1.06 per cent to 4.64 per cent in quinine and cinchonidine, and from 2.7 per cent to 8.3 per cent in total alkaloid.—Pharm. J., Lond., 1908, v. 80, p. 543.

Gane and Webster report a variation of from 61 to 63 volume per cent of absolute alcohol in four different lots of tincture of cinchona compound.—Drug Topics, New York, 1908, v. 23, p. 149.

CINCHONINÆ SULPHAS.

"Xrayser" points out that the Edinburgh Dispensatory, 1819, p. 96 ff., clearly establishes A. Duncan as the discoverer of cinchonine and that Gomez fairly recognized his priority. Duncan's pioneer

work is recognized in several French works, but, apparently, is not acknowledged in English treatises.—Chem. & Drug., Lond., 1908, v. 73, p. 549.

Rabe, Paul, discusses the structural composition of cinchonine and reports a number of experiments on which he bases his assumption that the structure of cinchonine has been definitely determined.—Ber. d. deutsch. chem. Gesellsch., Berl., 1908, v. 41, pp. 62–70.

CINNALDEHYDUM.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 150) report examining a number of samples of cinnamic aldehyde, claimed by the manufacturers to be of superior quality, which were found to be very inferior.

CINNAMOMUM SAIGONICUM.

Spaeth, Eduard, discusses the structural characteristics and the composition of various kinds of cinnamon, the adulterants met with, and the detection of the latter.—Pharm. Zentralh., 1908, v. 49, pp. 724–729.

Blome, Walter H., reports having made attempts to make a comparison between the various kinds of cinnamon dispensed by the grocers on the one hand and the pharmacists on the other. This was found to be a difficult and rather hopeless task for many reasons, no conclusive results being arrived at from the samples obtained. This holds good also for cloves, nutmeg, allspice, ginger, and pepper.—Proc. Michigan Pharm. Ass., 1908, p. 92.

Loock discusses the valuation of cinnamon and points out the difficulty of establishing limitations for the ash content. He reports on 10 samples of cinnamon, before and after sifting of the drug, and enumerates 9 available varieties of cinnamon.—Ztschr. f. öffentl. Chem., 1908, v. 15, pp. 86–90.

Petkoff, N., reports 6 samples of powdered cinnamon which varied from 5.06 to 14.8 per cent of ash. Two samples powdered by himself yielded but 1.99 and 2.15 per cent of ash respectively.—*Ibid.*, p. 82.

Sayre, L. E., reports 7 samples of cinnamon examined, 4 passed, 1 contained cocoanut shells, and 2 cassia buds.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 18, 63, 69, 181, 298.

Schneider, Albert, reports on 8 samples of cinnamon; 3 pure and 5 adulterated.—Pacific Pharmacist, 1908–9, v. 2, p. 391.

Philipp Röder (Jahresbericht, Wien, 1908, p. 51) reports on 5 samples of powdered cinnamon, the ash content of which varied from 3.06 to 5.45 per cent; the latter sample was rejected because of insufficient extract content, indicating either an inferior drug or one that had been mixed with extracted material.

An editorial comments on the therapeutics of cinnamon and asserts that if this drug were more generally employed it would become a general favorite among the standard every day medicines.—*Eclectic M. J.*, Cincin., 1908, v. 68, pp. 60–61.

CINNAMOMUM ZEYLANICUM.

Lorenzen, J., suggests that Ceylon cinnamon be given preference over the Saigon variety.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 295.

Ferguson, A. M. and J. (Colombo, Ceylon, 1908, p. 43) publish a pamphlet containing considerable information compiled from various sources relative to the history and botany of cinnamon, the importance of the cinnamon industry in Ceylon and elsewhere, cultivation and preparation for market, cinnamon substitutes, analysis of cinnamon and cassia oils, etc.—*Exp. Sta. Rec.*, 1908–9, v. 20, p. 841.

Hills, Walter, asserts that the ash should not exceed 5 per cent.—*Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14)*, Lond., 1908, p. 12.

The Journal of the American Chemical Society reports quills of Ceylon cinnamon which had the oil removed.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 769.

Lothian, John, reports that a sample of cinnamon bark examined had all the appearances of genuine cinnamon bark in the usual fine quills, but on examination was found to contain only a trace of volatile oil; it had evidently been exhausted.—*Pharm. J.*, Lond., 1908, v. 80, p. 566.

An unsigned article points out that Ceylon cinnamon is certainly an excellent appetizer, digestant, and carminative, and that there is some ground for the faith of those who believe that an abundant use of cinnamon will keep off infectious diseases.—*Critic and Guide*, N. Y., 1908, v. 11, p. 15.

COCA.

The therapeutic committee, B. M. A., suggests that coca and its galenical preparations be deleted from the *Ph. Brit.*, as cocaine and its salts are alone necessary.—*Pharm. J. Lond.*, 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

Macmillan, H. F., enumerates *Erythroxylon coca* as one of the plants acclimated in Ceylon, in 1870, from Peru and Bolivia.—*Circ. & Agric. J. Roy. Bot. Gard.*, Ceylon, 1908, v. 4, p. 66.

de Jong (*Teysmannia*, 1908, 233) thinks the small-leaved coca grows more rapidly and gives a better yield of leaf, containing twice as much "total alkaloid" as the large-leaved Peruvian plant. He discusses briefly the cultivation of coca in Java.—*Chem. & Drug. Lond.*, 1908, v. 72, p. 937. (See also *Ibid.*, 1908, v. 73, p. 178.)

Weigel, G., calls attention to two new sources for coca leaves. Mexico and West Africa. A shipment from Mexico is said to have been quite promising, the alkaloid content being fully 1 per cent. The West African leaf is said to have yielded 0.8 per cent of alkaloid.—Pharm. Zentralh., 1908, v. 49, p. 976.

Puckner, W. A., reviews some of the recent advances made in the assay of coca and points out that, when coca leaves are used for the manufacture of cocaine, their commercial value depends on the amount of ecgonine which may be obtained from them, and accordingly methods have been proposed for the assay of coca leaves based on their ecgonine content.—Am. J. Pharm., Phila., 1908, v. 80, p. 74.

Umney and Bennett assert that the U. S. P. assay process for coca works well and the separations are good, but three extractions should be made with both the ether and the acid liquid.—Pharm. J. Lond., 1908, v. 27, p. 345. (See also Year-Book of Pharmacy, London, 1908, p. 514.)

de Jong, A. W. K., discusses the determination of the total alkaloidal content of coca leaves and criticises the method proposed by Greshoff.—Chem. Weekblad, 1908, v. 5, pp. 225–229. (See also pp. 253–256, 645–647, 705–706, and Pharm. Weekblad., 1908, v. 45, pp. 42–43.)

Caesar & Loretz (Geschäfts-Bericht, 1908, p. ciii) outline the Keller-de Jong method for the assay of coca leaves.

Parker, C. E., reports the cooperative work done on coca leaves.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann., Conv., p. 136. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

McKesson, Donald, asserts that coca leaves are occasionally found to be entirely inert. This condition is thought to be caused by improper curing when the leaves are gathered.—Proc. N. W. D. A., 1908, p. 107.

Heuveler, P. I., reports that one shipment of coca was received which contained about 30 per cent of cocoanut shells.—Proc. Maryland Pharm. Ass., 1908, p. 34.

Smith, Kline & French Co. (Analytical Report, 1908, p. 16) report that the 3 samples of coca examined by them contained 0.4, 0.55, and 0.76 per cent of ether soluble alkaloids, respectively.

Carr and Reynolds found coca leaves to vary from 0.018 per cent to 0.79 per cent of petroleum ether soluble alkaloid.—Pharm. J., Lond., 1908, v. 80, p. 543.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 57–58) reports on 4 samples of fluid extract of coca, which were found to contain from 0.46 to 0.61 per cent of alkaloid and to vary in specific gravity from 1.052 to 1.085.

An unsigned article asserts that William J. Schieffelin found that fluid extract of coca deteriorates 28 per cent within a year.—Am. Druggist, 1908, v. 53, p. 264.

Beringer, George M., outlines a formula for fluid glycerate of coca.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 989.

Lawton, Walter, in a popular article on stimulants and narcotics, discusses the habitual use of coca and cocaine, its origin, and present widespread occurrence.—*Pharm. J., Lond.*, 1908, v. 26, p. 570.

The resolutions adopted by the American Pharmaceutical Association bearing on the importation of coca, its alkaloids and derivatives are reprinted.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 535-536.

COCAINA.

de Jong, A. W. K., reports experiments to determine the occurrence of crystallizable cocaine in Java coca, and refutes the assertion made by G. van der Sleen that Java coca contains no crystallizable cocaine.—*Chem. Weekblad*, 1908, v. 5, pp. 666-668.

Hills, Walter, recommends that the melting point of cocaine be revised.—*Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14)*, *Lond.*, 1908, p. 12.

Howard and Stephenson discuss at some length the microchemical analysis and identification of cocaine.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., pp. 99-100. (*Bull. Bur. Chem., U. S. Dept. Agric.*, 1909, No. 122.)

Heikel, Gunnar, reports a number of experiments showing the availability of Mayer's reagent for the quantitative determination of cocaine.—*Chem. Ztg.*, *Cöthen*, 1908, v. 32, p. 1163.

Mossler, Gustav, discusses the chemical composition of cocaine, and its relation to some of the newer synthetic compounds having similar pharmacodynamic properties.—*Ztschr. d. allg. österr. Apoth.-Ver.*, 1908, v. 46, pp. 89-91.

Kebler, L. F., reports that crude cocaine contained 92.2 per cent anhydrous ether soluble alkaloids; cinnamyl cocaine was present.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 781.

An editorial note (*Drug. Circ., N. Y.*, 1908, v. 52, p. 360) comments on "the diabolism of cocaine purveyors."

An editorial (*Pharm. J., Lond.*, 1908, v. 80, p. 144) comments on the cocaine traffic of India, and urges the wholesale export trade to refuse to execute orders for the transmission of cocaine to India through the post office.

Neuenborn reports two cases of cocaine poisoning following the topical application of cocaine solution for local anaesthesia.—*Dental Cosmos*, 1908, v. 50, p. 643.

Fardon, Harold J., reports observations and illustrates the action of cocaine on the mammalian uterus.—*Biochem. J., Liverpool*, 1908, v. 3, p. 414.

Kochmann and Daels report observations on the action of cocaine on the heart of warm-blooded animals with particular consideration

of the extra systole.—Arch. internat. de pharmacod. et de therap., 1908, v. 18, pp. 41–63.

Richet, Charles, discusses the anaphylaxis produced by intoxication with cocaine.—*Ibid.*, pp. 5–14.

Newman, Alfred, asserts that cocaine has been practically abandoned for spinal anaesthesia, because of the danger attending its use.—Merck's Arch., N. Y., 1908, v. 10, p. 253.

Prinz, Hermann, discusses rational methods of producing anaesthesia, the physiological action of anaesthetics, and the use of cocaine and some of the recent substitutes for cocaine.—Dental Cosmos, 1908, v. 50, pp. 926–934.

For additional references see Index Medicus and the J. Am. M. Ass.

COCAINÆ HYDROCHLORIDUM.

Hills, Walter, submits a monograph to be substituted for the one at present official.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 12.

Scholtz, M., discusses the formation and properties of a double salt of cocaine hydrochloride and ferric chloride.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, p. 48.

Lesure, André, discusses the sterilization of aqueous solutions of cocaine hydrochloride, for hypodermic injections, by means of the autoclave and points out that the decomposition of cocaine on heating is due largely, not entirely, to alkali and can be avoided by the use of proper glass.—J. de pharm. et de chim., Par., 1908, v. 27, pp. 474–480, 526–531. (See also Répert. d. pharm., Par., 1908, v. 20, p. 230, and Drug Topics, New York, 1908, v. 23, p. 282.)

Lehn & Fink (Annual Report for 1908, p. 14) think that cocaine hydrochloride can not be considered as having a true melting point, as in the case of this salt the melting point is accompanied by a chemical change. They suggest that the tests with permanganate and ammonia afford more reliable indications of its purity.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 13) report that of 40 samples of hydrochloride only 6 failed to answer McLagan's test in 1 minute. Five of these gave a crystalline precipitate in less than 2 minutes. One specimen was very unsatisfactory, failing to respond to 5 minutes' vigorous stirring.

COCCUS.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xci) point out that cochineal should be tested for moisture content, ash content, and tinctorial properties.

Pinchbeck, G., points out that there is no relationship between the ash content and the color yield and recommends that a test for color value be added.—Pharm. J., Lond., 1908, v. 26, p. 671.

Gane and Webster assert that most of the cochineal sold exceeds the U. S. P. limit of 6 per cent ash. They report examining 7 samples, which varied from 3.4 to 32.09 per cent of ash. Four of the samples contained 8 per cent and over.—*Drug Topics*, New York, 1908, v. 23, p. 132.

Smith, Kline & French Co. (Analytical Report, 1908, p. 17) report that the ash of the 5 samples of coccus examined by them ranged from 2.9 to 8.27 per cent.

Evans Sons Lescher & Webb (Analytical Notes, 1909, p. 13) report that the average ash content of about 20 samples of cochineal was 5 per cent, although 1 contained as much as 31 per cent.

Umney and Bennett think that cochineal is the best indicator for alkaloids, but is not sensitive enough for N/50 solutions.—*Year-Book of Pharmacy*, London, 1908, p. 517.

CODEINA.

The therapeutic committee, B. M. A., suggests that codeine be deleted from the Ph. Brit., as the base is not required.—*Pharm. J.*, Lond., 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

Franke, M., in a discussion of the several methods proposed for determining morphine, codeine, and narceine in opium, presents a description of the physical and chemical properties of codeine.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 309.

Dott, D. B., thinks that the Ph. Brit. characters and test for codeine are substantially correct, but they may, with advantage, be revised and amplified, to which end he makes certain suggestions.—*Pharm. J.*, Lond., 1908, v. 27, p. 108.

Hills, Walter, suggests adding to the characters, "Dried on a water bath it melts at 155°–156° C."—*Rep. Com. Ref. Genl. Med. Council* (to October 29, 1908), Lond., 1908, p. 23.

Kempf, Richard, discusses the purification of codeine by means of sublimation. He finds the melting point of the sublimed codeine to be 157° C. in place of 155° C., the melting point for commercial codeine given in the literature.—*J. f. prakt. Chem.*, Leipz., 1908, v. 78, pp. 248–258.

Scholtz, M., discusses the production and the properties of a double salt of ferric chloride with codeine hydrochloride.—*Ber. d. pharm. Gesellsch.*, Berl., 1908, v. 18, p. 48.

Stein, Sydney A., asserts that we have in codeine the most useful single drug in the treatment of heart disease in the stage of compensation.—*N. York M. J.*, 1908, v. 88, p. 56.

CODEINÆ SULPHAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 17) report that of 5 samples of codeine sulphate examined by them the melting points of 2 were 262° and 265° C., respectively.

COLCHICI CORMUS.

Hills, Walter, believes that, in accordance with the decision in the international agreement, this drug should be omitted.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 13.

Pearson, W. A., thinks the method of assay for colchicum and its preparations might be improved.—Am. J. Pharm., Phila., 1908, v. 80, p. 76.

Beringer, George M., asserts that the assay process for colchicum is far from satisfactory and must be improved.—Proc. New Jersey Pharm. Ass., 1908, p. 90.

Umney and Bennett believe that, in the U. S. P. assay process for colchicum, the aqueous solution containing the colchicine should be filtered through cotton wool and washed once with 10 cc. of petroleum ether to extract the last traces of fat. The alkaloid extracted by chloroform should be entirely soluble in water.—Pharm. J., Lond., 1908, v. 27, p. 345.

Vanderkleed, Charles E., reports 5 assays of colchicum corm, 0.290 per cent lowest; 0.650 per cent highest; 0.416 per cent average; 3 above and 2 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Smith, Kline & French Co. (Analytical Report, 1908, p. 17) report that the 3 samples of colchicum corm examined by them assayed 0.44, 0.37, and 0.40 per cent, respectively.

Beringer, George M., outlines a formula for fluid glycerate of colchicum corm.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 990.

"Xrayser" tells how colchicum came to be used as a gout remedy.—Chem. & Drug., Lond., 1908, v. 73, p. 649.

COLCHICI SEMEN.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. cxvii) outline the Keller-Panchaud method for the assay of colchicum seed.

Hills, Walter, asserts that, owing to the variation in the toxicity of colchicum seeds, these should be standardized to contain not less than 0.5 per cent of colchicine, when tested by a method which he describes.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 23.

Dohme and Engelhardt report colchicum seed varying from 0.4 per cent to 0.6 per cent of colchicine. The results obtained by the assay method of the U. S. P. are too high, and the method should

be revised. They recommend Panchaud's method by means of which a colchicine free from any admixtures can be obtained.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 816.

Vanderkleed, Charles E., reports 8 assays of colchicum seed; 0.430 per cent lowest; 0.733 per cent highest; 0.568 average; 7 above and 1 below standard.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 88.

Clark, A. H., reports on 1 sample of colchicum seed above the old standard of 0.55 per cent and 1 sample below the new standard of 0.45 per cent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 802.

Carr and Reynolds found colchicum seed to vary from 0.12 per cent to 0.57 per cent colchicine.—*Pharm. J., Lond.*, 1908, v. 80, p. 543.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 14) report that none of the samples of colchicum seed examined by them reached the B. P. C. figure of 0.7 per cent colchicine, the highest result being 0.56 per cent. The equivalent of 5 per cent grape sugar was found adhering to the surface of the seeds of two lots examined.

Webster, M. H., reports examining 1 sample of extract of colchicum seed, 22 years old, which was found to contain 4.95 per cent of alkaloids, while an examination made 2 years previously showed it to contain 5 per cent of alkaloids.—*Chem. & Drug., Lond.*, 1908, v. 73, p. 172.

Hills, Walter, believes that, in accordance with the international agreement, extract of colchicum should be made from the seeds instead of the corm. Experiments have shown that 50 per cent alcohol is a suitable menstruum. Owing to the great variation in the yield of extract, the preparation should be standardized.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), *Lond.*, 1908, p. 27.

Beringer, George M., outlines a formula for fluid glycerate of colchicum seed.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 990.

COLCHICINA.

Fardon, Harold J., reports observations and illustrates the action of colchicine on the mammalian uterus.—*Biochem. J., Liverpool*, 1908, v. 3, p. 412.

Dixon and Malden report a study of colchicine with special reference to its mode of action and effect on bone marrow.—*Journal of Physiology, London*, 1908, v. 37, pp. 50-76.

COLLODIUM.

Berger, F., discusses the testing of collodion and points out that pharmacopœias generally pay little attention to the properties of this preparation.—*Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich*, 1908, v. 46, pp. 354-356.

Pearson, W. A., suggests that a test for tensile strength might well be introduced.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 76.

Hills, Walter, describes a formula which should replace both the collodions at present official, as it gives a more firmly adherent, elastic film.—Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, p. 13.

An abstract presents a formula for a liquid court plaster in which a mixture of amyl acetate, 1 part, and acetone, 3 parts, is directed to be used as the solvent.—Bull. Pharm., Detroit, 1908, v. 22, p. 126.

Dohme and Engelhardt report on 1 lot of collodion which answered all the requirements of the U. S. P. as to the percentage of pyroxylin, etc., became very cloudy when mixed with balsam of fir and castor oil, and, after standing for 24 hours, a heavy sediment was produced in the mixture.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 816.

Franklin, J. H., asserts that acetone collodion makes a useful court plaster and protective film for bruises, etc. He thinks the pyroxylin may require to be reduced to about 3 per cent w/v. to make the collodion of a suitable consistency for some purposes.—Pharm. J., Lond., 1908, v. 26, p. 672.

Berenger, George M., presents a formula for an improved acetone cantharidal collodion.—Am. J. Pharm., Phila., 1908, v. 80, pp. 340-342.

Squibb, E. H., suggests a modification for salicylated collodion.—Bull. A. Ph. A., 1908, v. 3, p. 280.

Franklin, J. H., suggests that acetone collodion is preferable to the ordinary variety for green corn and wart solvents, as it gives a somewhat tougher film.—Pharm. J., Lond., 1908, v. 26, p. 672.

Pischel, K., discusses the use of intranasal collodion dressings, with a record of nearly 100 cases.—J. Am. M. Ass., 1908, v. 51, p. 1152.

COLOCYNTHIS.

Hills, Walter, submits a monograph to be substituted for the one at present official.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 24.

Rusby, H. H., found 3 lots of colocynth containing ground seeds.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 769.

Hooper, David, observes that the seeds of *Citrullus colocynthis* contain, in addition to a fixed oil, a bitter principle similar to that found in the fruit pulp.—Pharm. J., Lond., 1908, v. 81, p. 161.

Havenhill, L. D., asserts that much of the powdered colocynth furnished the pharmacist contains the seeds, regardless of the specifications of the Pharmacopœia. He suggests that for this drug a limit of petroleum ether soluble matter is desired and a colocynthin assay would be very acceptable.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 932.

The Bureau of Chemistry points out that colocynth is one of the drugs most commonly adulterated. The Pharmacopœia specifically states that the seeds shall be removed before the article is used in the

preparation of medicinal agents, but some of the colocynth at present on the market is either a mixture of pulp and seeds or consists largely of the seeds themselves.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 430.

Philipp Röder (Jahresbericht, Wien, 1908, p. 81) points out that the 7 per cent limit for ash in colocynth permitted by the Ph. Austr. VIII is too low, as the ash, in 3 out of 5 samples examined, was found to exceed this limit, 1 sample being as high as 13.66 per cent.

Hills, Walter, discusses the Ph. Brit. formula for compound extract of colocynth.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 27.

Beringer, George M., outlines a formula for fluid glycerate of colocynth.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 991.

Fyfe, John William, asserts that colocynth is often useful in dyspepsia, especially when there are colicky pains resulting from gas being lodged in various parts of the intestinal tract.—Eclectic Rev., 1908, v. 11, p. 261.

CONIUM.

The therapeutic committee, B. M. A., suggests that conium and preparations be deleted from the Ph. Brit., as they have no distinct therapeutic value.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Eriksson, Ella, describes and figures the structural characteristics of the stem of *Conium maculatum*.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 399-402.

Gane and Webster assert that the U. S. P. process for the alkaloidal assay of conium preparations is rather tedious and that, at best, only approximate results can be obtained.—Drug Topics, New York, 1908, v. 23, p. 372.

Beringer, George M., asserts that the assay process for conium is far from satisfactory and must be improved.—Proc. New Jersey Pharm. Ass., 1908, p. 90.

Hills, Walter, recommends that owing to the variation in the activity of the fruits of conium they should be assayed. Farr and Wright's process (Year-Book of Pharmacy, 1904, p. 69), using 90 per cent alcohol in the place of 70 per cent, should be adopted.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 24.

Umney and Bennett assert that the U. S. P. process for the assay of conium is not at all satisfactory. The ammonium sulphate does not separate completely, and the neutralization with sodium carbonate requires very great care. The process given in the British Pharmaceutical Conference Formulary, 1901, is much more satisfactory.—Pharm. J., Lond., 1908, v. 27, p. 345.

The Bureau of Chemistry points out that powdered conium has been found adulterated with powdered olive stones.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 430.

Patch, E. L., found 4 market lots not up to U. S. P. standard, ranging from 0.27 to 0.45 per cent of coniine.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 769.

Smith, Kline & French Co. (Analytical Report, 1908, p. 17) report assaying one sample of conium which contained 0.44 per cent coniine.

Philipp Röder (Jahresbericht, Wien, 1908, p. 88) reports that 2 samples of conium examined exceeded the 12 per cent limit of ash permitted by the Ph. Austr. VIII, the samples containing 15.58 and 18.76 per cent, respectively.

Webster, M. H., reports examining 1 sample of extract of conium fruit, 20 years old, which was found to contain 3.37 per cent total alkaloids, not varying from the results of an examination made 2 years previously.—Chem. & Drug., Lond., 1908, v. 73, p. 172.

Beringer, George M., outlines a formula for fluid glycerate of conium.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 991.

CONVALLARIA.

Pearson, W. A., suggests that a physiologic assay for convallaria and its preparations be introduced.—Am. J. Pharm., Phila., 1908, v. 80, p. 76.

Boruttau, H., discusses the standardization and control of the cardiac activity of preparations of convallaria.—Therap. d. Gegenw., Berl., 1908, v. 49, pp. 547–551.

Webb, Frank, asserts that convallaria has a very wide field of usefulness, if not the widest of any of the heart remedies. He reports a number of cases to demonstrate that convallaria is a valuable drug that has received scant attention from most of our practitioners.—Eclectic Rev., 1908, v. 11, pp. 13–14.

COPAIBA.

Kebler, L. F., asserts that nearly all of the copaiba entered at the port of New York is of South American origin. Twelve varieties of copaiba have been entered at New York: Para, Canime, Baranquilla, Maracaibo, African, Bahia, Cartagena, Bolivar, Trinidad, Panama, Casulano, and Port of Spain.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 778–780.

McKesson, Donald, asserts that African balsam is still used as an adulterant for copaiba, but is readily detected; also asserts that recently some "Japanese copaiba" was in the market which, on examination, proved to be a heavy Chinese wood oil with no copaiba present.—Proc. N. W. D. A., 1908, p. 107.

Solereeder, Hans, presents a contribution on the origin of the so-called Hardwickia Balsam.—Arch. d. Pharm., 1908, v. 246, pp. 71-77.

An abstract from the Chemist and Druggist points out that many of the samples of copaiba now on the market are sophisticated with African copaiba.—Drug Topics, New York, 1908, v. 23, p. 37.

Havenhill, L. D., asserts that while it is true that the substance called copaiba imported from South America comes labelled "Maracaibo," "Para," and with names of various other ports of shipment, there is nothing distinctive, at least chemically, in these titles.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 797.

Kebler, L. F., asserts that the test originally prescribed by the committee of revision of the U. S. P. for copaiba was modified at the earnest solicitation of many dealers in this commodity, and the result is that the new method is so unreliable and unsatisfactory as to permit the entry of copaiba containing at least 25 per cent of gurjun balsam, the common agent used for its adulteration.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 95. (Bull. Bur. Chem. U. S. Dept. Agric., 1909, No. 122.)

Vanderkleed, Charles E., reviews some of the tests for gurjun balsam in copaiba and outlines a modified test which he believes will indicate as little as 5 per cent.—Am. J. Pharm., Phila., 1908, v. 80, pp. 11-15. (See also p. 49.)

Pearson, W. A., thinks that a shorter test for turpentine and the addition of Turner's test would be advantageous.—*Ibid.*, p. 76.

Schimmel & Co. (Semi-Annual Report, April, 1909, p. 151) discuss the different views advanced concerning the detection of adulterants in copaiba balsam and offer suggestions for what they think are reliable methods for such detection.—See also *Ibid.*, November, 1908, p. 48, and pp. 149-150.

Rupp, E., calls attention to and commends the Ph. Helv. IV requirements for copaiba.—Apoth. Ztg., Berl., 1908, v. 23, p. 221.

Lehn & Fink (Annual Report for 1908, pp. 15-16) present a resumé of 10 analyses of copaiba balsam and outline methods for the determination of resin and the detection of gurjun balsam.

Smith, Kline & French Co. (Analytical Report, 1908, p. 17) report that the optical rotation of 2 samples of Carthagena copaiba examined by them was $-19^{\circ} 12'$ and $-53^{\circ} 42'$; the rotation of these samples after distillation with steam was $-15^{\circ} 21'$ and $-24^{\circ} 54'$, respectively. Two samples of Maracaibo copaiba had optical rotations of $+15^{\circ} 18'$ and $+29^{\circ} 30'$; the optical rotations of the distillates of these samples were $-9^{\circ} 36'$ and $-5^{\circ} 42'$, respectively.

Gane and Webster describe a sample of so-called Japanese copaiba, which was of a very dark reddish-brown color, and on examination proved to be the ordinary Chinese wood oil. They point out that this article has not been used in this connection since the early days

of the importation of Chinese wood oil, fifty or more years ago, when it was offered as a new East Indian variety of copaiba.—Drug Topics, New York, 1908, v. 23, p. 149. (See also Proc. Am. Pharm. Ass., 1908, v. 56, p. 769.)

Patch, E. L., rejected two lots as not U. S. P.—*Ibid.*, p. 769.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 14) examined 60 samples of copaiba balsam, a few samples of which contained fixed oils, colophony, and turpentine, as well as admixtures of African balsam. The optical rotation of oils from four different sources varied from -5° to -27° .

Philipp Röder (Jahresbericht, Wien, 1908, pp. 33–36) reviews the several tests suggested for the examination of copaiba and points out that the specific gravity at 15° C. should range from 0.965 to 0.995. The four samples reported on all came well within this limit, and the resin content on drying at 100° C. is given as varying from 56.78 to 63.22 per cent.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. ix) commend Turner's test for gurjun balsam, which they modify by using a fragment of sodium or potassium nitrite in place of a drop of the solution. They also point out (p. lxxxviii) that tests depending on the solubility of copaiba in various solvents are quite worthless, and that the determination of the acid and the ester number are useless, unless the absence of colophony and gurjun balsam has been demonstrated. They also point out that the specific gravity of this substance, as given in the several pharmacopœias, differs considerably, and propose 0.97 to 0.99, at 15° C., as a reasonable limitation.

van Wermeskerken, J. L., reports a sample of copaiba which did not comply with the ammonia test, gelatinizing within one hour.—Pharm. Weekblad., 1908, v. 45, p. 212.

CORIANDRUM.

Spaeth, Eduard, discusses the general characteristics of coriander, the requirements to be made regarding its composition, the adulterants and the detection of the latter.—Pharm. Zentralh., 1908, v. 49, p. 603.

Hood, S. C. (Vermont Sta. Rep., 1907, pp. 371–386), reports that the culture of coriander in Vermont is not likely to prove profitable.—Exp. Sta. Rec., 1908–9, v. 20, p. 335.

Weikel asserts that when other commercial varieties of coriander are scarce, Russian coriander comes into the market.—Am. J. Pharm., Phila., 1908, v. 80, p. 48.

Blome, Walter H., reports on 2 samples of coriander fruit. One contained quite a quantity of foreign matter.—Proc. Michigan Pharm. Ass., 1908, p. 92.

CREOSOTUM.

Hills, Walter, submits a monograph for creosote to replace the one at present official.—Rep. Com. Ref. Genl. Med. Council (to October 29, 1908), Lond., 1908, p. 24.

Scoville, W. L., reports a sample of phenol received labeled Beechwood creosote.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 769.

Lehn & Fink (Annual Report for 1908, p. 16) examined 7 samples of creosote, the official qualitative tests yielding satisfactory results in each case. Only 1 sample met the U. S. P. requirement for specific gravity. They suggest that the U. S. P. requirement for specific gravity should read 1.070 to 1.080 at 25° C.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 15) report that 12 samples of beechwood creosote examined by them varied in sp. gr. from 1.081 to 1.088. All complied with the B. P. C. requirements, except 2 in which the optical rotation was slightly to the left.

Eliot, Gustavus, believes that creosote and its various compounds deserve a leading place in the treatment of affections of the respiratory organs.—Boston M. & S. J., 1908, v. 158, p. 253.

Raw, Nathan, discusses the use of beechwood creosote in the treatment of tuberculosis. He administers it in the form of soft capsules or in mixtures with tincture of cinnamon, giving 5 drops or more at a time.—Folia Therapeutica, 1908, v. 2, p. 15.

For additional references on the use of creosote, see the Index Medicus, and the J. Am. M. Ass.

CRESOL.

Philipp Röder (Jahresbericht, Wien, 1908, p. 101) outlines a simple method for determining the absolute cresol content of crude cresols. This is essentially the same as that outlined in the Ph. Helv. IV.

Denigès, G., discusses the reactions for differentiating the cresols (with formaldehyde and with ethanal).—Bull. Soc. de pharm. de Bordeaux, 1908, v. 48, pp. 103–106.

Pearson, W. A., suggests that color standards and germicidal tests should be adopted for cresol and its compound solution.—Am. J. Pharm., Phila., 1908, v. 80, p. 76.

An editorial (Pharm.-Ztg., 53, 173–4) reviews the literature concerning the composition of cresol, methods for its analysis, tests for purity specifications for a medicinal preparation, and the preparation of a saponaceous solution.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, No. 12, p. 1743.

Emde and Runne present a comparative study of commercial cresol, discuss the determination of meta-cresol according to the method outlined by Raschig, and present their results in tabulated form.—Arch. d. Pharm., 1908, v. 246, pp. 418–431. (See also Apoth. Ztg., Berl., 1908, v. 23, p. 26 and p. 817.)

Herzog, J., further discusses the properties and tests that would apply to a crude cresol eligible for inclusion in the Ph. Germ.—Pharm. Ztg., Berl., 1905, v. 53, p. 8. (See also contribution by Raschig, pp. 99–100, and Herzog, p. 141.)

Patch, E. L., found the boiling point of 1 sample of cresol to be 196° C. and the specific gravity 1.0307; 3 other samples ranged in specific gravity from 1.0380 to 1.0484, and another sample had a specific gravity of 1.0530, and boiling point at 185° C. One volume with 1 volume glycerin required 2 volumes of water to separate it. Was not soluble in 60 parts of water.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 769.

Smith, Kline & French Co. (Analytical Report, 1908, p. 18) report that of 7 samples of cresol examined by them, all were of U. S. P. quality except 3, which had specific gravities of 1.035, 1.032, and 1.03.

Clark, A. H., called attention to the fact that commercial cresols differ greatly in antiseptic value according to the amounts of ortho-, meta-, and para-cresol present.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 27.

Deiter, J., discusses the chemical examination of solutions of cresol in soap.—Apoth. Ztg., Berl., v. 23, p. 310.

Rapp presents a contribution to our knowledge of cresol and solution of cresol and reports a number of experiments to determine the relative value of different preparations.—*Ibid.*, pp. 737–739. (See also under “Liquor Cresolis Compositus.”)

CUBEBA.

Hills, Walter, believes that the words “sometimes depressed at the base” should be omitted, as they refer to immature fruits. To exclude the presence of too much stalk or mineral matter, cubeb should be required to yield not less than 20 per cent of oleoresin to ether (specific gravity, not over 0.720) and not more than 7 per cent of ash.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 25.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xix) point out that the gradual reduction in the price of cubeb has had its effect in depreciating the quality of the drug that is arriving in England and in Holland.

Farwell, A. O., asserts that while cubeb is generally free from extraneous matters, some consignments reach this country with the peduncles intermixed, which debars the use of such lots for U. S. P. preparations.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Kebler, L. F., asserts that cubeb berries frequently contain a large percentage of stems and twigs, together with unmatured or over-ripe berries, and propounds the question, “To what extent is it permissible for these materials to be present?”—Proc. Ass. Off. Agric.

Chem., 1908, 25th Ann. Conv., p. 94. (Bull. Bur. Chem. U. S. Dept. Agric., 1909, No. 122.)

Vanderkleed, Charles E., reports 4 assays of cubeb: 13.690 per cent lowest; 23.600 per cent highest; 17.580 per cent average; 2 above and 2 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Philipp Röder (Jahresbericht, Wien, 1908, p. 81) reports on 3 samples of cubeb, which were found to contain from 5.72 to 6.77 per cent of ash.

Barnard, H. E., reports on 1 sample of tincture of cubeb examined, having a specific gravity at 20° C. of 0.8335; alcoholic volume at 20° C., 83.9; extract, 3.24 gms. per 100 cc.—Rep. Indiana Bd. Health, 1908, p. 341.

CUPRI SULPHAS.

Hills, Walter, recommends that this salt be required to contain not more than 0.1 per cent of iron calculated as Fe.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 25.

Gane and Webster discuss the use of copper sulphate as a disinfectant, and point out that one part per thousand of copper sulphate will prevent the growth of all forms of bacterial life, and a solution capable of being diluted to this strength might be offered as a substitute for the many proprietary disinfectants of doubtful value.—Drug Topics, New York, 1908, v. 23, p. 277.

Wiley, H. W., thinks that the administration of cupric sulphate, even in the extremely small quantities in which it has been given, has a very distinctly unfavorable effect upon health and digestion.—Proc. Am. Philosoph. Soc., 1908, v. 47, p. 322.

Brophy, Truman W., discusses the use of copper sulphate in the treatment of actinomycosis.—Dental Cosmos, 1908, v. 50, pp. 78-79, 344-346.

CYPRIPEDIUM.

Holm, Theo., describes and figures the plant, rhizome, and structural characteristics of several parts of *Cypripedium pubescens* Willd.—Merck's Rep., N. Y., 1908, v. 17, pp. 60-62.

Farwell, A. O., asserts that there are a number of species of cypripedium, the roots of which are indiscriminately collected for the official sort. They generally lack the pronounced odor of the official kind or possess it in a very faint degree.—*Ibid.*, p. 34.

Beringer, George M., outlines a formula for fluid glycerate of cypripedium.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 992.

An editorial note asserts that cypripedium is a drug well worth trial in nervous insomnia.—Eclectic. Rev., 1908, v. 11, p. 284.

DIGITALIS.

Sharp, Gordon, contributes a racy article on the history of "Foxglove," to which Fuchsius gave the name of digitalis in 1542; the

discovery of the true action was made by William Withering in 1775.—Pharm. J. Lond., 1908, v. 80, p. 667.

Hills, Walter, recommends that foxglove leaves should be required to be thoroughly dried at a low temperature and kept in well-filled air-tight containers. To comply with the requirements of the international agreement the following note should be added: In powdering foxglove leaves no portion should be rejected.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 25.

Hood, S. C. (Vermont Sta. Rept., 1907, pp. 371–386), reports that digitalis will not survive the winter, even though it makes a good growth the first season.—Exp. Sta. Rec., 1908–9, v. 20, p. 335.

An editorial calls attention to, and reprints the chemical test for, digitalis, which has been included in the Ph. Svec. IX.—Am. Drug-gist, N. Y., 1908, v. 53, p. 344.

An abstract quotes the characteristic features enumerated by Hartwich and Bohny for differentiating digitalis from its various adulterants.—Pharm. Zentralh., 1908, v. 49, p. 94.

Rusby, H. H., found one lot of digitalis containing powdered stramonium.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 769. (See also Drug. Circ., N. Y., 1908, v. 52, p. 370, and Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 138; Bull. Bur. Chem. U. S. Dept. Agric., 1909, No. 122.)

Bruder, Otto E. F., thinks that the digitoxin content of digitalis might be adopted as a guide to the valuation of this drug.—Nat. Druggist, St. Louis, 1908, v. 38, p. 16.

Pearson, W. A., believes that a physiologic assay should be introduced for digitalis and its preparations.—Am. J. Pharm., Phila., 1908, v. 80, p. 76.

Reed and Vanderkleed, in a contribution on the standardization of preparations of digitalis by physiological and chemical means, point out that there is a remarkable uniformity between the results obtained by physiologic tests and the quantitative determination of the contained digitoxin by chemical means.—*Ibid.*, 1908, v. 80, pp. 94, 110–120.

Wood, Horatio, C., jr., discusses the relation of digitoxin to the therapeutic virtues of digitalis, and quotes Dixon's assertion that the samples of digitoxin at present on the market vary in activity even more than the galenical preparations.—*Ibid.*, 1908, v. 80, pp. 107–110. (For discussion see p. 148.)

Carr and Reynolds have found good digitalis leaves to possess approximately three times the activity of poor specimens, and quote the opinion of Dixon and Haynes that hundreds of patients die annually from digitalis and its allies, owing to their great variability.—Pharm. J., Lond., 1908, v. 80, p. 543. (See also *Ibid.*, p. 440.)

Vanderkleed, Charles E., reports 8 assays of digitalis leaf: 0.160 per cent lowest; 0.356 per cent highest; 0.301 per cent average; 6 above and 2 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Kahn, Joseph, presents two tests for the differentiation of tincture of strophanthus from tincture of digitalis.—Proc. New York Pharm. Ass., 1908, p. 227.

Gane and Webster report a variation of from 46 to 47 volume per cent of absolute alcohol in 4 different lots of tincture of digitalis.—Drug Topics, New York, 1908, v. 23, p. 149.

Sayre, L. E., points out that the menstruum for fluid extract of digitalis was changed from 62.5 per cent alcohol, U. S. P. 1890, to 49 per cent alcohol, U. S. P. VIII.—Merck's Rep., N. Y., 1908, v. 17, p. 4.

Beringer, George M., outlines a formula for fluid glycerate of digitalis.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 992.

A correspondent asserts that in France digitalin, that is the crystalline glucoside, is used almost exclusively in place of the galenical preparations of the drug.—Pharm. Era., N. Y., 1908, v. 39, p. 647.

Garnier, L., reports observations on the color reactions of the toxic glucosides of digitalis.—J. de pharm. et de chim., Par., 1908, v. 27, pp. 369-371.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xxvi) point out that an increasing amount of attention is being devoted to the physiological testing of digitalis, and again outline the method proposed by Focke for standardizing this drug by means of the frog's heart.

Edmunds and Hale review the literature relating to the chemistry and physiological activity of digitalis and report a series of experiments to determine the practicability of the several biological methods for determining the value of digitalis. They also show that there is a general agreement between the various methods, and that the available preparations of digitalis differ widely, irrespective of the method employed.—Bull. Hyg. Lab., U. S. P. H. & M. H. S., 1908, No. 48, pp. 61

Wood, Horatio C., jr., discusses the pharmacology of heart stimulants and reviews much of the recent literature relating to digitalis, strophanthin, and some of the less frequently used drugs.—Am. J. M. Sc., Phila., 1908, v. 136, pp. 659-663.

Salant, William, calls attention to the great variation in physiological activity of preparations of digitalis and the desirability of more effectually controlling preparations of this type.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 104. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Lutzkaja, S., discusses the variation of digitalis and the possible determination of the activity of the drug. He reports a number of experiments and points out that the addition of glycerin to digitoxin appears materially to delay the toxic action.—*Arch. internat. de pharmacod. et de therap.*, 1908, v. 18, pp. 77-87.

Hatcher, R. A., points out that the difference in toxicity of strophanthus and digitalis is largely based on the length of time required for the action to manifest itself.—*Tr. Am. M. Ass., Sec., Pharm. and Therap.*, 1908, p. 164.

Howard, E. M., reviews the possibilities of digitalis therapeutics, the use of this drug for heart stimulation, and the possible explanation of its action in accordance with the law of similars.—*Hahne-mann. Month., Phila.*, 1908, v. 43, pp. 415-424.

Korndorfer, Aug., asserts that digitalis, next to opium, probably has been more lauded and more condemned as a therapeutic agent than has any other drug of our materia medica.—*Eclectic Rev.*, 1908, v. 11, pp. 20-23.

His, W., reviews the history and the uses of digitalis as a heart remedy, and concludes that the use of the so-called active principles of digitalis is not infrequently irrational and that the use of galenical preparations of digitalis is for the present at least the more promising.—*Therap. d. Gegenw., Berl.*, 1908, v. 49, pp. 433-436.

Additional references on the action and use of digitalis will be found in the *Index Medicus* and the *J. Am. M. Ass.*

ELASTICA.

Schneider, Albert, asserts that many rubber yielding plants thrive in California.—*Pacific Pharmacist*, 1908-9, v. 2, p. 22.

Frank, Fritz, presents a comprehensive review of the production and utilization of rubber.—*Ber. d. pharm. Gesellsch., Berl.*, 1908, v. 18, pp. 561-594.

A number of references on the production of rubber will be found in the *Journal d'Agriculture tropicale* and the *Exp. Sta. Rec.*

ELIXIR AROMATICUM.

Blumenschein, Fred. J., discusses the official simple elixir and outlines an improved method for preparing it.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 1028-1029.

Posey, H. G., outlines a modification of the official method for making aromatic elixir. He adds the compound spirit of orange to the talcum, then all the water, and filters.—*Ibid.*, 1908, v. 56, p. 1037.

Bradford, H. C., points out that in making simple elixir too much care can not be exercised in the selection of the oil of orange.—*Western Druggist*, Chicago, 1908, v. 30, p. 345.

Raeuber, E. G., notes that there is always trouble experienced in filtering clear the aromatic elixir, U. S. P.; by reversing the method of mixing the several ingredients a clear mixture is immediately obtained by filtering. He outlines his process.—*Proc. Wisconsin Pharm. Ass.*, 1908, p. 30.

Fearn, John, asserts that there is one vehicle that he does not like; it looks nice to many people, it tastes nice, but he don't want it. That is simple elixir. There is altogether too much alcohol in it. *Eclectic M. J.*, Cincin., 1908, v. 68, p. 353.

ELIXIR FERRI, QUININÆ ET STRYCHNINÆ PHOSPHATUM.

Schaper, H., presents an improved formula for the elixir of the phosphates of iron, quinine, and strychnine.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 156. (See also p. 88.)

Mills, Geo. P., suggests several modifications in the method of making the official elixir of the phosphates of iron, quinine, and strychnine.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 344.

Klenze, W. F., asserts that the principal fault with the U. S. P. preparation is its change of color on keeping. This, he believes, is due to impurities in the iron salt, and recommends that the iron phosphate be freshly made from solutions of iron citrate and sodium phosphate.—*Apothecary*, Boston, 1908, v. 20, p. 24.

Feil, Joseph, notes the complaint that this preparation changes color on keeping, and is difficult of preparation without the formation of precipitate.—*Drug. Circ.*, N. Y., 1908, v. 52, p. 113. (See also p. 167.)

Hallberg, C. S. N., stated that of 60 lots of the elixir of the phosphates of iron, quinine, and strychnine, U. S. P., prepared by students, none precipitated, and all were fairly uniform in color.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 87.

Bradford, H. C., questions the value of the phosphates present in the U. S. P. elixir of iron, quinine, and strychnine, and suggests the adoption of the preparation containing citro-chloride of iron and the sulphates of quinine and strychnine.—*Western Druggist*, Chicago, 1908, v. 30, p. 346.

Eisele, George, asserts that the most difficult part of the manipulation is the neutralization with ammonia water, and this can readily be remedied by simply taking one ounce of the elixir to be neutralized, neutralizing this, and then calculating the amount of ammonia water necessary to neutralize the whole quantity.—*Proc. Illinois Pharm. Ass.*, 1908, p. 107.

ELIXIRIA N. F.

Quant, Ernest, understands that an elixir should contain alcohol, sugar, and a flavoring agent; he thinks that a preparation that does

not conform to this general definition should not be classed as an elixir.—Pharm. J., Lond., 1908, v. 27, p. 514.

Wilbert, M. I., condemns the N. F. elixirs, saying that the majority of them are now obsolete, and that of the 80 formulas now incorporated in the National Formulary not more than a dozen have reason for being continued.—Am. J. Pharm., Phila., 1908, v. 80, p. 196.

Remington, Joseph P., points out that the N. F. elixirs have the advantage of not being secret, and are, in his opinion, much better as a class than the nostrums, which are being, or have been, prescribed.—*Ibid.*, 1908, v. 80, p. 197.

Blair, Henry C., deprecates the sameness of flavor in the official elixirs; in recommending variety he asserts that the druggist is not so penurious that he will buy only oil of orange, oil of lemon, oil of coriander, and oil of anise, and frequently has 20 or 30 other aromatic oils on his shelves.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1023.

Apple, Franklin M., presents formulas for several new elixirs.—*Ibid.*, 1908, v. 56, pp. 1026–1028.

Cook, E. Fullerton, reports a systematic review of the elixirs of the National Formulary.—Am. J. Pharm., Phila., 1908, v. 80, pp. 335–340. (See also Western Druggist, Chicago, 1908, v. 30, pp. 500–502.)

Diehl, C. Lewis, presents a compilation of comments and criticisms on N. F. III elixirs which have appeared up to January 1, 1908.—Bull. Am. Pharm. Ass., 1908, v. 3, pp. 112–115.

Cook, E. Fullerton, points out that in making the elixir of salicylic acid the acid dissolves very slowly and with difficulty. The preparation contains 50 per cent of glycerin and is really a glycerite.—Am. J. Pharm., Phila., 1908, v. 80, pp. 336–337.

Nixon, C. F., points out that elixir of salicylic acid, N. F., being a double-saturated solution, any change of conditions is likely to throw one or the other salt out of solution.—Apothecary, Boston, 1908, v. 20, p. 125.

Cook, E. Fullerton, asserts that the formula for elixir of anise is very satisfactory, but the odor is not that of anise, but strongly of bitter almond and considerable oil separates, making an unsightly preparation.

In making elixir of caffeine it is entirely impossible to dissolve the caffeine in the 125 c. c. of aromatic elixir directed. Experiments show that 625 c. c. are sufficient, and a change should be made in the directions.

In making elixir of calcium hypophosphite, the salt dissolves very slowly, a small portion remaining undissolved. One worker has suggested the solution of a freshly prepared salt to avoid this difficulty.

He finds the directions for elixir of calcium lactophosphate to be faulty and suggests that the calcium lactate be first dissolved in phos-

phoric acid and this solution then mixed with the other ingredients.

In making compound cathartic elixir considerable sediment separates after standing a few weeks. He also points out that this criticism applies to most of the elixirs made from fluid extracts.

In this era of correct titles elixir of cinchona can hardly be called "cinchona," since it is made from cinchona alkaloids and artificially colored. From a pharmaceutical standpoint the preparation is very satisfactory.

He finds that elixir of cinchona, iron, and pepsin develops a slight white precipitate, as do also the several other elixirs containing pepsin, i. e., cinchona, pepsin, and strychnine; plain pepsin; pepsin, bismuth, and strychnine; pepsin and bismuth; pepsin and iron.

In making the elixir of cinchona and hypophosphites the hypophosphites, at least the calcium hypophosphite, dissolved with great difficulty. He finds that the color is considerably lighter than the elixir of cinchona and suggests that the acid may be responsible for this color change.

He finds that after a few days the elixir of coca becomes cloudy.—*Am. J. Pharm., Phila., 1908, v. 80, p. 337.*

Blair, H. C., criticizes elixir of curaçao, and points out that it is not a desirable vehicle because of its being acid in character. He thinks that elixirs should be neutral preparations.—*Ibid., p. 196.*

Cook, E. Fullerton, asserts that it has been impossible to buy oil of curaçao orange from available sources.—*Ibid., p. 338.* (See also *Bull. Am. Pharm. Ass., 1908, v. 3, p. 241.*)

Diehl, C. Lewis, points out that oil of curaçao orange was included in the N. F. I. formula for spirit of curaçao, and it is only reasonable to conclude that at that time such an oil was available and genuine.—*Ibid., 1908, v. 3, p. 241.*

Blair, Henry C., has observed that precipitates are formed in elixir digestivum compositum and essentia pepsini, when used as vehicles for the administration of iodides and bromides.—*Proc. Pennsylvania Pharm. Ass., 1908, p. 264.*

Cook, E. Fullerton, reports that elixir of hypophosphites with iron deposits a slight precipitate.—*Am. J. Pharm., Phila., 1908, v. 80, p. 339.*

He also reports that he found that by dissolving the potassium acetate first in the water, and then the lactate of iron, solution was greatly facilitated.

In making elixir of pyrophosphate of iron, quinine, and strychnine, the addition of talc before filtering improves the appearance of the elixir.

The formula for elixir of iron, quinine, and strychnine is satisfactory, if the tincture of citro-chloride of iron has been made in accordance with the latest issue of the N. F. III.—*Ibid., p. 338.*

Squibb, E. H., suggests the increase in the materials used for de-tannating to 1.5 times the prescribed quantity in the N. F. formula, for elixir of gentian.—Bull. A. Ph. A., 1908, v. 3, p. 280.

Cook, E. Fullerton, points out that the formula for elixir of gentian glycerinated needs revision, and suggests the elimination of the acetic ether and the saccharin.—Am. J. Pharm., Phila., 1908, v. 80, p. 338.

Hallberg, C. S. N., expressed the opinion that saccharin should be dropped as a sweetening agent in the glycerinated elixir of gentian and other preparations of the N. F.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 88.

Klenze, W. F., believes that the faults of the N. F. glycerinated elixir of gentian appear to be the use of too much saccharin and too little acetic ether.—Apothecary, Boston, 1908, v. 20, p. 24.

Feil, Joseph, makes similar suggestions.—Drug. Circ., N. Y., 1908, v. 52, p. 113.

Cassin, E. E., suggests the use of 1 per cent of ammoniated glycyrrhizin to replace the saccharin. The use of Jamaica rum to replace the acetic ether has also been suggested, and some pharmacists advise the omission of both the saccharin and the acetic ether.—*Ibid.*, p. 160.

Whitney, D. V., reasserts that elixir gentianæ glycerinatum is too sweet, but the proposed addition of Jamaica rum is not advisable as he can see no necessity or object for it.—Proc. Missouri Pharm. Ass., 1908, p. 103.

Apple, F. M., points out that because of the high percentage of glycerin in glycerinated elixir of gentian, it rightly belongs to the class of glycerites; and that, owing to the presence of several ingredients, the word "compound" should be added to the title.—Am. J. Pharm., Phila., 1908, v. 80, p. 196.

The same author presents a formula for glyceritum tonicum compositum which he believes to be a most desirable preparation.—Apothecary, Boston, 1908, v. 20, p. 185.

Cook, E. Fullerton, asserts that several different makes of glycerophosphates have proven unsatisfactory. The addition of a few drops of phosphoric acid to the glycerophosphate of calcium will dissolve the precipitate, but on standing a voluminous white precipitate is again developed.—Am. J. Pharm., Phila., 1908, v. 80, p. 339.

Raubenheimer, Otto, suggests the addition of 2 cc. of lactic acid to 1,000 cc. of this elixir. He also suggests that the name be changed to "Elix. Calc. et Sod. Glycerophosphat."—Bull. Am. Pharm. Ass., 1908, v. 3, p. 240.

Cliffe, William L., asserts that at least some of the commercial preparations of the glycerophosphates now on the market are better in every respect than the elixir of glycerophosphates of the National Formulary.—Am. J. Pharm., Phila., 1908, v. 80, p. 197.

van Rijn, W., presents a comprehensive dissertation on glycerino-phosphoric acid and its salts.—Pharm. Weekblad, 1908, v. 45, pp. 905-911, 929-935, 954-959, 969-977.

Prunier, Georges, makes a contribution to the etherification of phosphoric acid by glycerin, and proposes methods for the making of glycerophosphates of lime and of mercury.—Répert. d. pharm. Par. 1908, v. 20, pp. 56-58.

Mealy, C., points out that there are two kinds of calcium glycerophosphate now on the market, and suggests that the National Formulary define which of the two is intended to be used for preparing the elixir.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 243.

Self, P. A. W., contributes a paper on the acid glycerophosphates which he finds at least as stable as the neutral glycerophosphates, treated of in all pharmacopœial works of reference, and which he thinks possess the advantage of being much more soluble.—Pharm. J., Lond., 1908, v. 80, p. 627.

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report that the 6 samples of sodium glycerophosphate examined by them differed considerably.

Whitney, D. V., asserts that elixir glycyrrhizæ aromaticum N. F., while practically the same as elixir adjuvans of the U. S. P. VIII, should be retained, as the title is so clearly descriptive of its contents; or the Pharmacopœia should recognize the title as a synonym.—Proc. Missouri Pharm. Ass., 1908, p. 103.

Cook, E. Fullerton, asserts that aromatic elixir of glycyrrhiza is not a very satisfactory preparation pharmaceutically. It is usually turbid, due probably both to the fluid extract and the volatile oil present.—Am. J. Pharm., Phila., 1908, v. 80, p. 338.

He points out that for a colorless preparation of elixir of lithium salicylate it is essential that a colorless and a high grade chemical be obtained.

He also reports that wholesale houses on several occasions have been unable to supply extract of malt U. S. P. for making elixir of malt and iron.

Elixir of paraldehyde, he points out, separates into two distinct layers, the top layer occupying about one-fourth of the volume, and that the only available method for overcoming this would be the addition of more alcohol.—*Ibid.*, p. 339.

Squibb, E. H., finds that a permanently clear elixir of paraldehyde is obtained if the quantity of alcohol directed in the N. F. (315 cc.) is increased to 330 cc.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 251.

Cook, E. Fullerton, points out that a slight deposit forms in elixir of potassium acetate and juniper upon standing.—Am. J. Pharm., Phila., 1908, v. 80, p. 339.

Whitney, D. V., points out that the N. F. III, by a footnote, leaves it optional to color elixir of potassium bromide with compound tincture of cudbear, or leave it colorless; for the sake of uniformity this should not be permitted, as the elixir should have the same appearance wherever dispensed.—Proc. Missouri Pharm. Ass., 1908, p. 103.

Cook, E. Fullerton, points out that in making compound elixir of quinine and phosphates, although a solution was first obtained, a voluminous precipitate soon formed. This elixir should be further experimented with, if the preparation is to be retained.—Am. J. Pharm., Phila., 1908, v. 80, p. 339.

He also asserts that in the elixirs of terpin hydrate a heavy crystalline precipitate has formed. This precipitate on investigation proved to be sugar, and the amount of sugar should be reduced in the future editions of the N. F.—*Ibid.*, p. 339.

Blair, Henry C., thinks that glycerin gives sufficient sweetness to elixir of terpin hydrate without the addition of saccharin or the use of sirup. He proposes a formula in which the terpin hydrate is dissolved in a mixture of equal parts of alcohol and glycerin.—Proc. Pennsylvania Pharm. Ass., 1908, p. 265; Apothecary, Boston, 1908, v. 20, p. 428.

Ilhardt, W. K., found large crystals deposited which proved to be pure sugar. By using 150 instead of 200 cc. of sirup and 50 cc. of water he secured a permanent solution.—Proc. Missouri Pharm. Ass., 1908, p. 94.

Whitney, D. V., reports that after standing the sugar crystallizes out leaving a very palatable clear elixir, therefore the sirup should be omitted or reduced.—*Ibid.*, p. 103.

Utech, P. Henry, proposes a modified formula for an elixir of terpin hydrate.—Proc. Pennsylvania Pharm. Ass., 1908, p. 277.

Squibb, E. H., suggests a modification of the N. F. formula for elixir of terpin hydrate.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 280.

Schieffelin, Wm. J., points out that elixir of terpin hydrate and heroin of the N. F. does not keep well, while that made by some private formulas does keep.—*Ibid.*, p. 54.

EMPLASTRUM PLUMBI.

Harrison and Watt report observations on the chemical properties of lead plaster, and present a table giving the analytical results obtained from the examination of 7 samples of this preparation.—Year-Book of Pharmacy, London, 1908, pp. 528-530.

EMULSA.

Diehl, C. Lewis, presents a compilation of comments and criticisms on the emulsions of the N. F. III which have been brought to his attention.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 115.

"F. R." describes and illustrates an apparatus for making large quantities of emulsions.—*Ann. de pharm., Louvain, 1908, v. 14, pp. 481-483.*

Eldred and Bartholomew present a note on the separation of emulsions for analysis, discuss the method previously proposed by Kebler and Hoover, and point out that by the simple addition of alcohol the oils and emulsifying agents could readily be separated.—*Proc. Am. Pharm. Ass., 1908, v. 56, pp. 838-840.*

Hommell, P. E., believes that the emulsion of cod-liver oil and the emulsion of cod-liver oil with hypophosphites U. S. P., should contain less fixed oil, say 35 per cent. because when these preparations are given there is, as a rule, a very debilitated condition of the whole system, and the secretions are therefore not very abundant, especially the pancreatic juice which digests fat.—*Proc. New Jersey Pharm. Ass., 1908, p. 104.*

He also recommends the adoption by the U. S. P. of an emulsion of petroleum combined with the hypophosphites. The revised edition of the N. F. has a very good formula with the hypophosphites, but what is much needed is an emulsion combining the hypophosphites of lime and soda.—*Ibid., 1908, p. 105.*

EPINEPHRINA.

Franklin, J. H., asserts that the B. P. C. monograph on adrenine is well written and contains all of the important facts relating to this substance. He also commends the formulas for the preparations of the suprarenal gland contained in this book.—*Pharm. J., Lond., 1908, v. 80, p. 672.*

Gunn and Harrison discuss the coloration of adrenine solutions; they give a formula for a solution which does not readily discolor even when exposed to light and air for some weeks.—*Ibid., 1908, v. 80, pp. 513-514. (For discussion see p. 519.)*

Mossler, Gustav, discusses the origin and chemical characteristics of synthetic epinephrine-like products.—*Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 91.*

Thomann, J., reviews some of the recent literature relating to the synthetic epinephrine-like products.—*Schweiz. Wchnschr. f. Chem. u. Pharm., Zürich., 1908, v. 46, pp. 417-418.*

Biberfeld, J., and Stolz and Flaccher contribute brief papers on synthetic suprarenin. The former gives the results of certain pharmacological experiments.—*Pharm. J., Lond., 1908, v. 80, p. 626. (See also Ibid., p. 723.)*

Cushny, Arthur R., notes the fact that in a paper read before the Physiological Society, March 21, he suggested that the levorotatory natural base alone possessed the typical action in the body, while

the dextrorotatory synthetic suprarenin was inactive, and his views were reported by Dixon [see ante]. He thinks Biberfeld unfortunate in his choice of the rabbit for his experiments, as this animal rapidly acquires a tolerance for suprarenal preparations. He comments also on the paper by Stolz and Flaecher.—*Ibid.*, 1908, v. 80, p. 668.

Krauss, Ludwig, enumerates a number of reactions for synthetic suprarenin.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 701.

Crawford, Albert C., reviews the several methods used for the physiological testing of the active constituent of the adrenal glands.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 322-324.

Meltzer, S. J., calls renewed attention to the priority of the observation recorded by Meltzer and Auer, that the injection or instillation of adrenalin produces a characteristic dilatation of the pupil.—*Arch. f. exper. Path. u. Pharmacol.*, Leipz., 1908, v. 59, p. 458.

Neuberg, Carl, discusses the change or decomposition of adrenalin in the presence of enzymes.—*Biochem. Ztschr.*, Berl., 1907-8, v. 8, pp. 383-386.

Brooks and Kaplan report observations on the effects of prolonged adrenalin medication on the human circulatory organs.—*Arch. Int. Med.*, 1908, v. 1, pp. 329-334.

Pemberton and Sweet report observations on the inhibition of pancreatic activity by the extracts of suprarenal and pituitary bodies.—*Ibid.*, 1908, v. 1, pp. 628-647.

A chart illustrating the records noted above is presented.—*Ibid.*, 1908, v. 2, pp. 295-296.

Jackson, D. E., reports the results of his experiments to determine the duration of the existence of adrenalin in the blood after intravenous injection.—*Am. J. Physiol.*, 1908, v. 23, pp. 226-245.

An abstract (*L'Odontologie*, Feb. 15, 1908) calls attention to the use of adrenalin as an antiphlogistic.—*Dental Cosmos*, 1908, v. 50, p. 431.

Hillegas, William M., recommends the thorough use of epinephrine solutions in their original strength (1-1000) in the treatment of hay fever.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 581.

Jones, U. O., asserts that the only remedy he uses in cases of catarrhal conjunctivitis, or "pinkeye," is adrenalin chloride, full strength, two or three drops at a time.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 44.

A review of the literature for 1908 relating to the physiological properties and chemistry of adrenalin is presented.—*Jahresb. ü. Tier.-Chem.*, for 1908, Wiesb., 1909, v. 38, p. 500. (See also under *Glandulæ Suprarenales Siccæ*.)

For additional references see *Biochem. Centrabl.*, *Index Medicus*, and *J. Am. M. Ass.*

ERGOTA.

Ruffmann and Maben contribute an interesting paper on "Ergot production and collection in Russia." A tabulated statement of the exports from Russia shows an increase from 45.04 tons in 1900 to 215.30 tons in 1906. Reference is made to the quality of Russian ergot, the effect of age on ergot, the physiological test for ergot, and to the history of ergotism in Russia.—*Pharm. J., Lond.*, 1908, v. 80, pp. 247-249.

Hills, Walter, recommends that the minimum length requirement be increased to 1.5 cm.—*Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908)*, *Lond.*, 1908, p. 26.

Rathe, Arnold, reports some observations on the characteristics and constituents of the fatty oil of ergot.—*Arch. d. Pharm.*, 1908, v. 246, p. 696.

Pearson, W. A., asserts that as ergot is often partly or completely inert, physiologic assays should be introduced.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 77.

Smith, Kline & French Co. (Analytical Report, 1908, p. 18) report that they tested several samples of ergot physiologically which were found to be normally active.

Blome, Walter H., reports on many samples of ergot tested physiologically, which proved to be uniformly good.—*Proc. Michigan Pharm. Ass.*, 1908, p. 92.

Carr and Reynolds, in samples of ergot carefully chosen as to external characters, have found some so lacking in activity that 10 grams will not produce the effect normally obtained from 2 grams.—*Pharm. J., Lond.*, 1908, v. 80, p. 543.

Bernegau, L. Henry, asserts that ergot is sometimes loaded with small stones, grains, etc., but this is usually accidental and not done on purpose. Old stock is often brightened with oil. Most samples in the market are worm-eaten, some are really alive with vermin. A good ergot should assay at least 0.15 per cent "cornutine." Some samples recently met with by him showed as low as 0.02 per cent. and one assayed as low as 0.016 per cent.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 223.

Dohme and Engelhardt report that ergot last year was of a rather poor quality. A drug with 0.2 per cent of cornutine, not infrequent in former years, could hardly be obtained.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 816.

Vanderkleed, Charles E., reports 8 assays of ergot: 0.028 per cent lowest, 0.190 per cent highest, 0.088 per cent average; 3 above and 5 below standard.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 88.

Schneider, Albert, reports on 1 sample of ergot which was found to be very moldy and full of mites.—*Pacific Pharmacist*, 1908-9, v. 2, p. 392.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 82) reports on 3 samples of ergot which were found to contain from 2.90 to 3.25 per cent of ash, the extract content in 45 per cent alcohol varying from 14.5 to 15.6 per cent.

Caesar & Loretz (*Geschäfts-Bericht*, 1908, p. liv) point out the desirability of thoroughly drying ergot which is expected to be kept on hand until the end of the season. They also point out the impracticability of the Ph. Austr. VIII requirement, that powdered ergot be perfectly free, as it is quite impossible to free the drug absolutely, from the accompanying grains of rye. They also discuss the assay of ergot and call attention to the keeping qualities of powdered ergot that has been freed from the fatty oil by means of petroleum benzin.

Kobert, R., presents a comprehensive review of the several available preparations of ergot.—*Pharm. Ztg.*, Berl., 1908, v. 53, pp. 839-840.

Gane and Webster report a variation of from 37 to 56 volume per cent of absolute alcohol in nine different lots of fluid extract of ergot.—*Drug Topics*, New York, 1908, v. 23, p. 148.

Hills, Walter, recommends that both extract and liquid extract of ergot be evaporated at a temperature not exceeding 60° C.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 27.

Sharp, Gordon, has found after adequate experience that the liquid extract of ergot will retain its full activity for at least 12 months.—*Pharm. J.*, Lond., 1908, v. 80, pp. 79-82. (See also *Drug Topics*, New York, 1908, v. 23, p. 361, and *Merck's Rep.*, N. Y., 1908, v. 17, p. 302.)

Beringer, George M., outlines a formula for fluid glycerate of ergot.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 992.

Davy, Henry, president of the British Medical Association, in commenting on the superfluous preparations of ergot enumerated in the B. P. C., said, Would it not be better if the Pharmaceutical Society had used its great influence to get rid of these more or less useless preparations of ergot altogether, rather than to have retained them in a Codex, which is the last word on practical pharmacy?—*Pharm J.*, Lond., 1908, v. 80, p. 290.

Kraft, F., presents a contribution to our knowledge of crystalline hydroergotinin sulphate.—*Biochem. Centralbl.*, Leipz., 1908, v. 7, p. 234. (See also articles by Tanret and by Gaubert on ergosterine, *Compt. rend. Acad. d. sc.*, Par., 1908, v. 147, pp. 75-77, 498.)

Crawford, Albert C., reviews some of the recent work in connection with ergot.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 324-327.

Kehrer, E., discusses the use of the isolated uterus of the cat as a test object for the valuation of preparations of ergot.—*Biochem. Centralbl.*, Leipz., 1908, v. 7, p. 578. (See also *Arch. f. exper. Path. u. Pharmakol.*, Leipz., 1908, v. 58, pp. 366-385.)

Edmunds and Roth report on the examination of a number of ergot preparations, call attention to the several methods of physiological assay employed, and outline the method used by them. Of 11 preparations examined 2 were found to be practically inactive, while 3 others were found to be but half the strength of their standard preparation.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, pp. 41-43. (See also J. Am. M. Ass., 1908, v. 51, pp. 2132-2133.)

Salant, William, asserts that the activity of ergot can at present be determined only by experiments on animals. He asserts that its action on the cock's comb after subcutaneous injection, or on the isolated uterus of the cat, is characteristic and may therefore be used to advantage in its identification or in the determination of the strength of preparations.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 105 (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122).

Foltz, K. O., asserts that ergot is a valuable remedy in subconjunctival congestion—Eclectic M. J., Cincin., 1908, v. 68, p. 33.

For additional references on the pharmacology and the use of ergot see Index Medicus and the J. Am. M. Ass.

ERIODICTYON.

Schneider, Albert, asserts that *Eriodictyon californicum* is one of the most popular medicinal plants of California. Indians and settlers consider the leaves a specific for colds, asthma, and grippe. It is highly valued as a blood purifier, as a cure for consumption, bronchitis, catarrh, and rheumatism.—Pacific Pharmacist, 1908-9, v. 2, p. 84.

Mossler, Gustav, reports a chemical examination of *Eriodictyon glutinosum* and discusses the chemical properties of some of its constituents.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, pp. 177-178, 191-192.

Tunmann, O., describes and illustrates the pharmacognostic and microscopic characteristics of *Eriodictyon californicum*, and discusses the œcological importance of the oil glands of eriodictyon.—Pharm. Zentralh., 1908, v. 49, pp. 159-166.

EUCALYPTOL.

Schimmel & Co. (Semi-Annual Report, Apr., 1909, p. 151) think that the best eucalyptol is an optically inactive product of the melting point $+1^{\circ}$ to $+1.5^{\circ}$ C. In discussing the B. P. C. requirements for eucalyptol (*Ibid.*, p. 141) they assert that the index of refraction at 20° is about 1.458, and that special directions should be given as to the procedure in determining the boiling point. In discussing the Ph. Helv. III requirements for eucalyptol (*Ibid.*, p. 130) they

point out that eucalyptol is optically inactive, that the specific gravity lies between 0.928 and 0.930, and that it has a melting point of from $+1^{\circ}$ to $+1.5^{\circ}$ C.

The same firm (*Ibid.*, Nov., 1908, p. 145) in discussing the Ph. Fr. V requirements for eucalyptol, asserts that the usual method of determining the specific gravity of eucalyptol at 15° is preferable to, and more convenient than, that recommended in the Ph. Fr. V; also that necessary details are wanting in the latter.

Blome, Walter H., reports on samples of eucalyptol which tested 74 to 100 per cent pure by U. S. P. process. He asserts that this method gives very variable results when applied to the same sample by the same operator and under as nearly the same conditions as possible.—*Proc. Michigan Pharm. Ass.*, 1908, p. 92.

Patterson, Francis Denison, discusses the use of eucalyptol in the treatment of uncinariasis in Porto Rico, and asserts that all of the patients to whom this drug was administered suffered from dizziness, fatigue, and a desire to sleep. Some of them had retching, and others fainting fits, so that it became necessary to administer stimulants to prevent a fatal result.—*Therap. Gaz.*, Detroit, 1908, v. 32, p. 245.

EUCALYPTUS.

Kremers, Edward, presents an account of the culture of eucalyptus trees in California and the utilization of the leaves in the production of oil of eucalyptus.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 177-184.

Schneider, Albert, asserts that some one hundred or more species, varieties, and forms of the genus eucalyptus have been introduced into California and all thrive well. *Eucalyptus globulus* is the most common.—*Pacific Pharmacist*, 1908-9, v. 2, p. 86.

Todd-White, Arthur, thinks the great value of tincture of eucalyptus in hæmorrhage is not generally recognized by the profession; he is of the opinion that the internal use of calcium chloride combined with the external application of tincture of eucalyptus will stop any form of hæmorrhage.—*Brit. M. J.*, Lond., 1908, v. 2, p. 81.

Kopp, Frederick, asserts that *Eucalyptus globulus* gives the best results in diarrhœas in which the stools are thin and watery and preceded by aching and sharp pains in the lower part of the bowels.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 959.

EUGENOL.

Schimmel & Co. (Semi-Annual Report, Apr., 1908, p. 141) in discussing the B. P. C. requirements for eugenol, assert that the lower limit of specific gravity is too high, they having sometimes observed the latter as low as 1.0713 at 15° . They suggest special instructions

which they think should be given as to conducting the boiling point determinations.

Smith, Kline & French Co. (Analytical Report, 1908, p. 18) report the examination of one sample of eugenol which had a specific gravity of 1.063 and a boiling point of 241° C.

EUONYMUS.

Hills, Walter, recommends that the following addition be made to the characters of euonymus in order to render the identification of the bark more precise: "A transverse section examined under the microscope is seen to be free from sclerenchymatous cells and bast fibers and to exhibit in the secondary bast narrow, axially elongated cells filled with a granular, elastic substance."—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 26.

Farwell, A. O., asserts that the root bark of wahoo (*Euonymus*, U. S. P.) is frequently more or less adulterated with the bark from the stems and branches, while the trunk bark, instead of being peeled off, is shaved off, carrying with it more or less inert wood, which sometimes even exceeds the bark in quantity.—Merck's Rep., N. Y., 1908, v. 17, p. 35.

EUPATORIUM.

Holm, Theo., describes and illustrates the appearance and structure of *Eupatorium perfoliatum* L.—Merck's Rep., N. Y., 1908, v. 17, pp. 326-328.

Beringer, George M., outlines a formula for fluid glycerate of eupatorium.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 993.

EXTRACTA.

Lyons, A. B., presents a number of tables indicating the volume of water required for the dilution of mixtures of water and alcohol in the preparation of official menstrua of more diluted alcohol.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 161-166.

Franklin, J. H., asserts that the section of the B. P. C. devoted to extracts and liquid extracts includes considerable information of general interest to the pharmacist.—Pharm. J., Lond., 1908, v. 80, p. 672.

The A. Ph. A. committee on the U. S. P. points out that the official processes for making extracts do not provide for the saving of alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 527.

Beringer, George M., believes that the official method for preparing solid extracts by evaporation of the fluid extracts is wasteful of alcohol and not economical. He also believes that the number of powdered extracts should be increased.—Am. J. Pharm., Phila., 1908, v. 80, p. 434. (See also Proc. New Jersey Pharm. Ass., 1908, p. 92.)

Berger, Fr., presents a critical study of the extracts contained in the Ph. Helv. IV.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 734-738.

Gane and Webster report their observation on the stability of alkaloidal extracts, and assert that the commonly expressed opinion that alkaloidal alcoholic extracts are prone to decompose is not well founded.—Drug Topics, New York, 1908, v. 23, pp. 228-229.

Berlinger, George M., believes that the caking and solidifying of powdered extracts may be corrected by substituting for the milk sugar as a diluent the finely powdered and dry drug or the dried and finely powdered marc from the process, and extending the permission given in the introductory notes.—Proc. New Jersey Pharm. Ass., 1908, p. 92.

Greenish and Griffin contribute a paper on the microscopical identification of the green extracts, with five figures.—Pharm. J. Lond., 1908, v. 81, pp. 835-836. (For discussion see p. 767.)

BEEF EXTRACT.

A special commissioner reports on the origin, manufacture, and uses of extract of beef, with tabulated analyses, made in the Lancet laboratory, maps and figures.—Lancet, 1908, v. 175, pp. 1233-1244.

Bradshaw, Henry A., presents a comparative study of a number of so-called beef extracts found on the market. Practically all of the samples examined contained potassium nitrate.—Proc. Pennsylvania Pharm. Ass., 1908, pp. 254-255.

FERRI CARBONAS SACCHARATUS.

The therapeutic committee of the British Medical Association suggests that saccharated ferrous carbonate be deleted from the Ph. Brit., as it is an unnecessary and somewhat variable preparation.—Pharm. J. Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report that each of 2 commercial samples of ferrous carbonate contained but 0.5 per cent of ferrous carbonate. Each contained about 49.2 per cent of ferric iron.

FERRI ET AMMONII CITRAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 19) report that in the 1 sample of iron and ammonium citrate examined by them there was 18.7 per cent of metallic iron.

Blome, Walter H., reports on 2 samples of iron and ammonium citrate the reaction of which was slightly acid whereas it should be

neutral. Color, apple green, should be garnet red; not U. S. P. Amount of iron in the compound about correct. Returned on manufacturer's advice, who stated that some error had been made in shipping the article out. Both salts, the brown and the green, are made and seem to be in demand.—Proc. Michigan Pharm. Ass., 1908, p. 93.

FERRI ET AMMONII SULPHAS.

Moerk, Frank X., points out that 11.5 per cent of metallic iron is equivalent to 99.188 per cent of the pure crystallized salt, and not 99.5 per cent as stated in the U. S. P.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 899.

Smith, Kline & French Co. (Analytical Report, 1908, p. 19) report that the 1 sample of iron and ammonium sulphate examined by them was 100 per cent pure.

FERRI ET AMMONII TARTRAS.

Smith, Kline & French Co. (Analytical Report, 1908, pp. 19–20) report that the 2 samples of iron and ammonium tartrate examined by them contained 15 and 13.8 per cent of iron, respectively.

FERRI ET POTASSII TARTRAS.

Patch, E. L., asserts that iron and potassium tartrate often contains ammonia and is not U. S. P.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report 1 sample of iron and potassium tartrate examined containing 15.3 per cent of metallic iron.

FERRI ET QUININÆ CITRAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report 3 samples of iron and quinine citrate examined: Iron 15.2, 13, and 13.08 per cent, and quinine 13.3, 14.05, and 12.4 per cent, respectively.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 20) report the examination of 26 samples of iron and quinine citrate yielding between 14.2 and 15.3 per cent of anhydrous quinine. One outside sample only afforded 13 per cent.

FERRI ET QUININÆ CITRAS SOLUBILIS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report 2 samples of soluble iron and quinine citrate examined: Iron content, 13.3 and 14.5 per cent; quinine content, 10.8 and 10.6 per cent, respectively.

FERRI ET STRYCHNINÆ CITRAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report the examination of 1 sample of iron and strychnine citrate: Iron content, 16.8 per cent; strychnine, 0.94 per cent.

FERRI HYPOPHOSPHIS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report that the 3 samples of ferric hypophosphite examined by them were of satisfactory quality.

Patch, E. L., found iron hypophosphite containing an excess of calcium.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

FERRI PHOSPHAS SOLUBILIS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report that the 1 sample of soluble ferric phosphate examined by them contained 13 per cent of metallic iron.

The therapeutic committee of the British Medical Association thinks ferric phosphate is of little value.—Pharm. J., Lond., 1908, v. 27, p. 811.

Fyfe, John William, asserts that ferrum phosphoricum is successfully employed in all abnormal states, depending on a relaxed condition of muscular tissue, and also in wrongs of the blood.—Eclectic Rev., 1908, v. 11, p. 112.

FERRI PYROPHOSPHAS SOLUBILIS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report that the 1 sample of soluble ferric pyrophosphate examined by them contained 12.2 per cent of iron.

Pascal, P. (Compt. rend., 146, 1908, Nos. 5 and 6) has given the name of *Ferripyrophosphate* to a new complex salt of iron in which the iron is masked. The sodium salt has the formula $\text{Fe}_2(\text{P}_2\text{O}_7)_3\text{Na}_6 \cdot 9\text{H}_2\text{O}$. A ferropyrophosphate, $\text{Fe}_2(\text{P}_2\text{O}_7)_3\text{Na}_8$, can be prepared by using metaphosphoric acid.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 293.

FERRI SULPHAS.

May, Otto B., reports examining commercial samples of ferrous sulphate and points out that there is a marked difference in the article commercially obtainable. He recommends restricting the pharmacopœial description for ferrous sulphate, so as to apply to the quality that is generally known as "prime green."—Am. J. Pharm., Phila., 1908, v. 80, p. 211.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report that the 2 samples of iron sulphate examined by them were 97.5 and 96 per cent pure, respectively.

Kenrick, F. B. (*J. Physic. Chem.*, 12, 693-705), reports the results of experiments to determine the hydrates and acid salts of ferrous sulphate.—*Chem. Abstr.*, *Am. Chem. Soc.*, 1909, v. 3, p. 741.

FERRI SULPHAS EXSICCATUS.

Hill, Charles Alexander, suggests as a standard for exsiccated ferrous sulphate, a limit of 2 parts arsenic per million.—*Chem. & Drug.*, *Lond.*, 1908, v. 72, p. 797.

FERRUM.

Knott, John, presents an interesting paper on iron, metallic and magnetic, physical and philosophical, its place in mythology, in demonology, in astrology, in medical and surgical therapeutics.—*N. York M. J.*, 1908, v. 88, pp. 919-928, 969-976, 1029-1036.

White, Edmund, discusses metallic and reduced iron, the assay methods, the tests that are used, and the trade varieties that are met with.—*Pharm. J.*, *Lond.*, 1908, v. 26, pp. 737-738.

Kobert, E., discusses the available preparations of iron and their several uses.—*Pharm. Ztg.*, *Berl.*, 1908, v. 53, p. 573.

Peters, Leroy S., discusses the treatment of secondary anæmia of tuberculosis with hypodermics of iron and gives a tabulated statement of results in 42 cases.—*Med. Rec. N. Y.*, 1908, v. 74, p. 620.

Patterson, Francis Denison, asserts that many iron preparations were tried and found to be useless for the cure of anæmia due to uncinariasis. He points out that it is only by expelling the parasites and freeing the body of their toxins that the increase in the blood corpuscles and in the hæmoglobin is obtained.—*Therap. Gaz.*, *Detroit*, 1908, v. 246.

Smith, Eustace, discusses the use and misuse of various preparations of iron, with suggestions for the choice of preparation under various conditions, the state of the stomach being a matter of importance in this choice. Basham's mixture is preferred for its diuretic effect in Bright's disease.—*Brit. M. J.*, 1908, v. 2, p. 1144.

FERRUM REDUCTUM.

Frerichs, G., discusses several methods that have been suggested for the determination of iron in reduced iron and outlines a method depending on the solution of iron in dilute hydrochloric acid, oxidizing with nitric acid, precipitating with ammonia and weighing the resulting ferric oxide after having previously washed and dried the same.—*Arch. d. Pharm.*, 1908, v. 246, pp. 190-205.

Gane and Webster assert that practical experience has shown them that the U. S. P. assay method for reduced iron is not at all satisfactory, that it gives very varying results, especially in the hands of different analysts. They believe that a satisfactory method of assay is as yet not available.—*Drug Topics*, New York, 1908, v. 23, p. 373.

Harvey, T. F., reports that the U. S. P. limit of 10 per million for arsenic is too stringent. No commercial sample yet examined has shown less than 80 parts As_4O_6 , the majority of samples lying between 100 and 200 parts per million. The present Ph. Brit. requirement of 75 per cent metallic iron is a reasonable one in view of the deterioration that occurs in keeping. Freshly prepared samples will show up to 90 per cent, or even more, but usually 80 to 86 per cent. From the point of view of the retailer, any raising of the standard is to be deprecated. A small quantity purposely stored in a poor container for a month fell from 86 to 74 per cent in that time.—*Chem. & Drug*, Lond., 1908, v. 72, p. 904.

Hill, Charles Alexander, suggests as a standard for reduced iron 200 parts of arsenic per million.—*Ibid.*, 1908, v. 72, p. 797.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 20) report that the limit of arsenium given in the B. P. C. of 1 in 10,000, has been exceeded in very few samples examined by them in recent years. They think that a pharmacopœial limit on the same lines would be satisfactory. The samples examined during the last year were, on the whole, satisfactory, sulphur being the most common impurity.

Smith, Kline & French Co. (Analytical Report, 1908, p. 20) report that the purity of the 7 samples of reduced iron examined by them ranged from 17.5 to 96.3 per cent. One sample contained a large amount of sulphide and one a trace.

Blome, Walter H., reports on 1 sample of reduced iron, which contained considerable ferrous sulphide; 81.11 per cent Fe, left 6.5 per cent residue from hot dilute sulphuric acid.—*Proc. Michigan Pharm. Ass.*, 1908, p. 93.

FICUS.

The therapeutic committee of the British Medical Association suggests that ficus be deleted from the Ph. Brit., as it is an article of commerce which requires no official definition.—*Pharm. J.*, Lond., 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

Schneider, Albert, asserts that fig culture is a most important industry in California. Numerous culture forms or varieties are grown.—*Pacific Pharmacist*, 1908-9, v. 2, p. 119.

FLUIDEXTRACTA.

The A. Ph. A. committee on U. S. P. believes that the list of official fluid extracts, as it is, is needlessly extended, and that there is merit

in the plan of the French Codex of merely giving a list of tinctures and similar preparations to be made after a stated method and with a certain menstruum.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 527.

Beringer, George M., asserts that in the pharmacopœial formulas for fluid extracts much useless waste of space can be saved by the adoption of general processes and the direction to use alcohol of a given percentage.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 92. (See also *Am. J. Pharm.*, Phila., 1908, v. 80, p. 435.)

Hemm, Francis, discusses the marked changes in composition or working processes of several official fluid extracts. Formulas in the Pharmacopœia ought to be conservatively revised, and only grievous reasons should demand an upset of a well-tried and satisfactory formula. The removal of working processes summarily, or the complicating of processes, must strike the average pharmacist unfavorably. As instances in which radical changes have been made at the last revision, the author mentions and criticises the formulas for the fluid extracts of licorice, of senna, and of squills.—*Proc. Missouri Pharm. Ass.*, 1908, pp. 83–85.

Deér points out that pharmacists who purchase their galenical preparations, such as fluid extracts, can not assume full responsibility for their materials. He recommends that the pharmacist make even the smaller quantities of fluid extract used by him and describes and figures a small percolator designed for the economic production of small quantities of extractive preparations.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 479.

Wilbert, M. I., believes that the formulas for fluid extracts given in the National Formulary are altogether too numerous and that but a very small number of these preparations are at all widely used.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 196.

Rupp, E., commends the Ph. Helv. IV requirement that fluid extracts have a certain specified extract content.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 222.

Delaye, Louis, reviews the fluid extracts of the Ph. Belg. III and presents a table giving the amount of dry extract in each preparation.—*Bull. Soc. roy. de pharm.*, Brux., 1908, v. 52, pp. 176–182. (See also *J. de pharm. d'Anvers*, 1908, v. 64, pp. 375–382.)

Marpmann, G., describes and figures a new method for producing fluid extracts. The apparatus employed is described as a pressure filter percolator.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 138.

Puckner, W. A., calls attention to the possible deterioration of fluid extracts and suggests that preparations of a drug will probably be found to deteriorate more rapidly than the drug itself. He also points out that many fluid extracts on the market are probably years old before they reach the consumer.—*Tr. Am. M. Ass.*, Sec. Pharm. and Therap., 1908, p. 45.

An unsigned article brings an abstract from the report made by William J. Schieffelin regarding the deterioration of certain fluid extracts and the desirability of requiring dated labels.—*Am. Drug-gist*, N. Y., 1908, v. 53, p. 264.

An editorial commenting on the alleged deterioration of certain fluid extracts expresses the belief that radical steps should be taken to devise new and more stable preparations to take the place of the fluid extracts complained of and points out that it is dangerous to have in the Pharmacopœia preparations which decline so rapidly in their efficacy.—*Ibid.*, 1908, v. 53, p. 248.

Pearson, W. A., points out that the popular idea that 1 cc. of a fluid extract represents one gram of drug is fallacious in the case of assayed fluid extracts. These preparations very rarely conform to this standard, as they are adjusted to the alkaloidal assay strength, irrespective of the amount of drug. When working on a large scale, the formulas and proportions given in the Pharmacopœia are not always ideal.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 77.

Searby, W. M., observes that pharmacists have always been taught that a cubic centimeter of a fluid extract represented a gram. There has been no deviation from this relation between drug and fluid extract until the eighth revision of the U. S. P. was issued. Then, without explanation of the reason why this was done, 10 fluid extracts are directed to be made from 6 to 20 per cent weaker than the drugs; that is, a cubic centimeter of the fluid extract represents 0.8 gm. to (approximately) 0.94 gm. of the drug. These are all alkaloidal drugs, the drug in each case being required to contain a certain percentage of alkaloid or alkaloids. The fluid extracts are also required to be standardized, so that 1,000 gm. of the drug, instead of yielding 1,000 cc. of fluid extract, yields an indefinite quantity determined by the amount of alkaloid present.—*Pacific Pharmacist*, 1908, v. 2, p. 117.

Umney and Bennett give a tabulated comparison of the U. S. P. VIII standard as issued, U. S. P. VIII standard as corrected, Ph. Brit. IV standard, and the standard proposed by Umney.—*Pharm. J. Lond.*, 1908, v. 27, p. 345. (See also *Year-Book of Pharmacy*, London, 1908, pp. 513–519.)

Blome, Walter H., asserts that it is probably well known that fluid extracts made of a given drug vary in alcoholic strength. The resulting fluid extract is invariably lower in alcoholic strength than is the menstruum started with. The reasons for this are that some of the alcohol is inevitably and always lost. The drug being air dried, contains more or less moisture which is taken up by the menstruum, the latter, in turn, being diluted. Finally, the menstruum takes up more or less extractive from the drug and this is equivalent to reduc-

ing the alcoholic percentage.—Proc. Michigan Pharm. Ass., 1908, p. 92.

Gane and Webster point out that the alcohol strength of fluid extracts is subject to considerable variation. The variation is even wider in the case of alkaloidal assayed fluid extracts. It should be remembered that the strength of alcohol indicated by manufacturers on the labels of these preparations is approximate only. It is impracticable to print a new lot of labels for each lot of fluid extract.—Drug Topics, New York, 1908, v. 23, p. 148.

Lloyd, John Uri, calls renewed attention to the fact that precipitation in a fluid extract may, and frequently does, increase the per cent content of absolute alcohol.—Am. J. Pharm., Phila., 1908, v. 80, p. 39.

Feil, Joseph, discusses the use of acetic acid as a menstruum for fluid extracts and concludes that the acetic fluid extracts keep well and that their number could be extended, especially for veterinary practice.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 883-884.

Francis, John M., takes exception to the assertions made by Feil, and asserts that acetic acid fluid extracts have a greater tendency to precipitate, that he has never seen a preparation of this kind that did not precipitate, and that everyone who has had any practical experience with these preparations has come to the conclusion that they are neither practical nor desirable.—*Ibid.*, v. 56, pp. 884-885.

Hallberg, C. S. N., asserts that the use of acetic acid for fluid extracts containing tannin is especially objectionable; he thinks that this menstruum can be used to advantage with but a very few of the official drugs.—*Ibid.*, v. 56, p. 886.

FLUIDEXTRACTA N. F.

ADONIDIS N. F.

Eriksson, Ella, describes and figures the structural characteristics of the stem of *Adonis vernalis*.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 395-396.

ALETRIDIS N. F.

Farwell, A. O., asserts that stargrass is derived from *Aletris farinosa* Lin., and consists of the short rhizome and roots. The appearance of the drug is such that any other material used as an adulterant would at once be detected; yet Helonias, *Chamaelirium luteum* (Lin.) A. Gray, in considerable quantities has been offered as stargrass.—Merck's Rep., N. Y., 1908, v. 17, p. 35.

Sayre, L. E., reports that the sample of fluid extract of aletris examined had deteriorated.—Bull. Kansas Bd. Health, 1908, v. 4, p. 295.

APII GRAVEOLENTIS N. F.

Stallman. A. C., found celery seed containing 25 per cent ground stone.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 768.

ASCLEPIADIS N. F.

Pearlstein, M. B., asserts that the actions of the different varieties of *asclepias* have been known for over half a century, and calls attention to the use of *Asclepias tuberosa* in dysmenorrhœa. He asserts that the eliminating properties of *Asclepias tuberosa*, through its diaphoretic and diuretic action on the morbid material in the body, are very marked by virtue of its special affinity on the excretory organs.—Eclectic Rev., 1908, v. 11, pp. 42-44.

ASPIDIOSPERMATIS N. F.

Vanderkleed, Charles E., reports 2 assays of quebracho: 0.650 per cent lowest; 2.050 per cent highest; 1.350 per cent alkaloids; 1 above and 1 below standard.—Proc. Penn. Pharm. Ass., 1908, p. 88.

Wood, Horatio C., jr., reports observations on the effects of quebrachin on the lungs, which, he concludes, irritates in some way the mucous membrane of the lungs, giving rise to localized congestion, and through irritation of the sensory nerve endings reflexly to an enormous increase in the respiratory activity.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, pp. 123-127.

CAMELLIÆ N. F.

Beringer, George M., outlines a formula for fluid glycerate of tea and the procedure to be followed. He asserts that the product is clear and satisfactory, and has the odor and taste of the leaf well preserved. It mixes clear with sirup, opalescent with water or diluted alcohol, and turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1004.

CASTANÆÆ N. F.

Beringer, George M., outlines a formula for fluid glycerate of castanea, and the procedure to be followed, and asserts that the resulting preparation is free from precipitate, a thick, clear, red-brown liquid, having a faint odor of the leaf and slightly acidulous, pleasant, bitter, and astringent taste. It mixes clear with water, sirup, or diluted alcohol, but alcohol coagulates it.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 988.

COFFEEÆ N. F.

Beringer, George M., outlines a formula for fluid glycerate of coffee, and the procedure to be followed, and asserts that fluid glycerates of

both green, or unroasted, and of roasted coffee were prepared and both appear to be satisfactory preparations. That from the roasted coffee will fill a demand that is growing in the trade for a concentrated extract of coffee for making sirup, flavoring for ice cream, soda water, etc.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 990.

COTO N. F.

Rusby, H. H., asserts that coto and paracoto bark are among the most reliable therapeutic agents in the materia medica, often the only means of saving life in severe cases of dysentery, yet the use of this medicine has almost ceased owing to the fact that the genuine drug is now scarcely ever seen. In two years he has not known of an importation of it to the United States that was not spurious. A brief macroscopic examination will enable anyone immediately to recognize every one of these pretenders. The same statement applies, in a somewhat less serious degree, to Winter's bark, a most valuable aid in nutrition.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 138; Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122. (See also Proc. Am. Pharm. Ass., 1908, v. 56, pp. 769, 790.)

CORYDALIS N. F.

Sayre, L. E., reports a sample of fluid extract of turkey corn deteriorated.—Bull. Kansas Bd. Health, 1908, v. 4, p. 296.

HELIANTHEMI N. F.

Farwell, A. O., asserts that although frostwort is plentiful yet the St. Andrew's cross, *Ascyron hypericoides* Lin., is collected in large quantities and offered as a substitute.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

IRIS N. F.

Farwell, A. O., asserts that a large lot of drug purporting to be blue flag proved, on examination, to be the root of a species of gentian. Blue flag should be free of roots, but the rhizome is often offered when heavily covered with them.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

JUNIPERI N. F.

Philipp Röder (Jahresbericht, Wien, 1908, p. 81) reports on 4 samples of juniper which were found to contain from 2.21 to 4.71 per cent of ash.

KAYE N. F.

Riedel's Berichte (Berlin, 1908, pp. 9-27) presents a review of the literature relating to *Piper methysticum*, reports observations on the

composition of this drug and experimental work to determine the chemistry of its constituents.

Winzheimer, E., presents a contribution to our knowledge of the root of *Piper methysticum*, reviews some of the history of this drug and records some observations on the chemical composition of methysticin and yanguonin.—Arch. d. Pharm., 1908, v. 246, pp. 338–365.

Boehm and Kubler (Arch. Pharm., 246, 663–6) report on the physical characteristics and chemical examination of a new drug (Fam. *Asclepiadaceæ*) from the Transvaal, of reputed efficacy in cancer.—Chem. Abstr., Am. Chem. Soc., 1909, v. 3, p. 1150.

STERCULIÆ N. F.

Vanderkleed, Charles E., reports 1 assay of kola nut showing a percentage of 1.320 of alkaloid.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Bernegau, L., reports the results of an investigation on the chemical and physical properties of kola.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 468–491. (See also Der Tropenpflanzer, Berlin, 1908, v. 12, pp. 117–126, 464–475.)

Goris, A., presents the results of a study of fresh kola and the preparation of kolatine.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 345–354.

Goris and Arnould (Bull. sci. pharmacolog., 14, 159–61, 1907) discuss the preservation and sterilization of fresh kola nuts.—Chem. Abstr., Am. Chem. Soc., 1909, v. 3, p. 226.

Dohme, A. R. L., reviews some of the recently published work by Goris on kola.—Am. J. Pharm., Phila., 1908, v. 80, pp. 411–412.

Chevalier and Alquier (C. R., Bd., 146, p. 86, Jan., 1908) discuss the action of fresh kola nuts on the work done by the animal organism.—Biochem. Centralbl., Leipz., 1908, v. 7, p. 354.

Gæze and Webster have not found either of the N. F. menstrua for fluid extract of kola to be quite satisfactory. While both exhaust the drug well and make a presentable extract the preparation on keeping is very liable to deposit heavily, especially when the fluid extract is subjected to changes in temperature. They suggest the use of dilute alcohol.—Drug Topics, New York, 1908, v. 23, p. 196.

TURNERÆ N. F.

Sayre, L. E., reports a sample of fluid extract of damiana deteriorated.—Bull. Kansas Bd. Health, 1908, v. 4, p. 296.

VERBASCI N. F.

Rusby, H. H., found one shipment of verbascum to be *Nicotiana rustica*, labeled mullein to escape duty.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 771.

Westling, R., discusses the distinguishing characteristics of the several varieties of *Verbascum* growing in Sweden.—Svensk. farm. Tidskr., 1908, v. 12, pp. 405–413.

FENICULUM.

Spaeth, Eduard, describes fennel, the several commercial varieties, the requirements that should be made for the drug, and the detection of adulterations.—Pharm. Zentralh., 1908, v. 49, pp. 545–547.

Woolsey, J. F., reports that the ash from powdered fennel varies from 12 to 17 per cent usually.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Philipp Röder (Jahresbericht, Wien, 1908, p. 81) reports rejecting one sample of powdered fennel which contained 13.79 per cent of ash.

Arragon, Charles, reports finding a sample of fennel which on close inspection was found to contain 16.7 per cent of foreign seeds and 10.5 per cent of small yellow stones.—Ztschr. f. Unters. Nahr. u. Genussm., v. 16, pp. 400–402.

Rieter, E., calls attention to the report by Arragon.—Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich, 1908, v. 46, p. 818.

The therapeutic committee of the British Medical Association suggests that *fœniculi fructus* and *aqua* be deleted from the Ph. Brit., as they are unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

FRANGULA.

Oesterle and Tisza present some observations on the chemical constitution of *frangula emodin*.—Arch. d. Pharm., 1908, v. 246, pp. 112–116.

They also present some additional observations on the differentiation between *frangula emodin*, *aloe emodin*, and *rhein*.—*Ibid.*, 1908, v. 246, pp. 432–436.

Tschirch and Pool present a comparative study of the barks of *Rhamnus frangula* and *Rhamnus purshiana*. They review the literature relating to the chemistry of these two barks and outline a method for estimating the oxymethylantraquinone content.—*Ibid.*, 1908, v. 246, pp. 315–325. (See also Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 665–672.)

Philipp Röder (Jahresbericht, Wien, 1908, p. 52) reports on 3 samples of *frangula* which varied from 3.98 to 4.88 per cent of ash, the extractive varying from 22.55 to 24.12 per cent.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xv) point out that chemical as well as clinical experiments demonstrate the superiority of *frangula* to the much more expensive *cascara sagrada*.

Rentsch, R., outlines a method for differentiating fluid extract of *frangula* from fluid extract of *Rhamnus purshiana*. The dried and

powdered extract of the former on sublimation at 140° C. yields needle-shaped crystals, while the latter does not.—Pharm. Post., Wien, 1908, v. 41, p. 285.

Thomann, J., reviews the paper by Kroeber on the comparative value of frangula and cascara.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 131.

Beringer, George M., outlines a formula for fluid glycerate of frangula and the procedure to be followed. He asserts that this is an excellent preparation that has shown no signs of a precipitate, and shows that alcohol is not necessary for the extraction of either of the official barks of Rhamnus. Its solubility is peculiar, as it mixes clear with sirup or diluted alcohol, and only slightly cloudy with alcohol, but decidedly cloudy with water.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 993.

GALLA.

Philipp Röder (Jahresbericht, Wien, 1908, p. 82) reports on 3 samples of nutgall, which were found to contain from 1.32 to 2.01 per cent of ash.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22) report examining 2 samples of galla, one of which had not been gathered at the proper time.—See also Proc. Pa. Pharm. Ass., 1908, p. 75.

Beringer, George M., outlines a formula for fluid glycerate of nutgall, the procedure to be followed, and asserts that it is very difficult to percolate powdered nutgall in the usual way. If the powder is too fine it will at once gum and resist all attempts at extraction with the menstruum, and so it was found necessary to use a coarsely ground drug, and to make this into a very thin paste before attempting extraction. The product separated what at first seemed like considerable sediment, but this deposited as a small amount of precipitate closely adhering to the bottom of the bottle, from which the clear liquid was readily decanted. It mixes clear with water, sirup, or diluted alcohol, and almost clear with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 998.

Scoville, Wilbur L., in discussing the paper by Beringer, asserts that a liquid preparation of nutgalls made with a menstruum of 60 per cent glycerin with water precipitated much more freely than a similar preparation made with the official menstruum.—*Ibid.*, v. 56, p. 1006.

GAMBIR.

Weigel, G., asserts that the production of gambir in various parts of India is rapidly decreasing, and that the commercial use of this substance is also decreasing.—Pharm. Zentralh., 1908, v. 49, p. 956.

Woolsey, J. F., reports on 2 samples of gambir (cubes), having, respectively, 88.76 and 76 per cent soluble in alcohol, 4.50 and 4.90 per cent ash.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 84.

Hills, Walter, believes that as good samples of catechu yield more than 70 per cent extractive to 90 per cent alcohol, this figure should be raised from 70 to 80 per cent. The ash limit should remain as at present. The microscopical examination should be conducted on a sample mounted in water; this should show numerous acicular crystals, but no starch grains. He describes a test to distinguish catechu from cutch.—*Rep. (2d interim) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond.*, 1908, p. 10.

Woolsey, J. F., reports on 5 samples of catechu, 1 powdered, having a solubility in alcohol of 38.34; ash, 5.03 per cent; and moisture, 9.89 per cent; and 4 slab, whose solubility ranged from 72.40 to 76 per cent; ash from 2.82 to 12; and moisture from 11.20 to 13.90 per cent. The powdered sample was rejected on account of the low alcoholic solubility and the sample having 12 per cent on account of this large percentage of ash.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 84.

Schneider, Albert, reports on 1 sample of catechu having a marked tar taste, being adulterated with 3 per cent of tar.—*Pacific Pharmacist*, 1908-9, v. 2, p. 391.

Beringer, George M., outlines a formula for fluid glycerate of gambir, and the procedure to be followed, and asserts that the clayey matter present in gambir makes the percolation of this drug difficult. The product is a thick, almost viscous, preparation that represents the drug fully. It mixes clear with sirup or diluted alcohol, and produces slight cloudiness with alcohol and an increased turbidity with water.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 993.

GELATINUM.

Philipp Röder (*Jahresbericht*, Wien, 1908, pp. 82-83) reports on 4 samples of gelatin, which were found to contain from 1.82 to 2.03 per cent of ash; 2 of these samples exceeded the *Ph. Austr.* VIII limitation of 2 per cent of ash.

Padé, L., discusses the estimation of sulphurous acid in food materials and particularly in gelatins.—*Ann. de chim. analyt. Par.*, 1908, v. 13, pp. 299-301.

Wood, J. F., discusses the compounds of gelatin and tannin, and points out that they are extremely variable.—*J. Soc. Chem. Ind.*, Lond., 1908, v. 27, pp. 384-387.

Lamière and Seyewetz (*Rev. gén. de Chim. pure et appliqué*, 1908, 295) discuss the action of formaldehyde on gelatin. They have sought to establish whether gelatin, which has been rendered insoluble

by the action of formaldehyde, is a definite chemical compound or simply gelatin containing indefinite quantities of the formaldehyde; whether formaldehyde-gelatin is to be regarded as an aldehydic body or simply an addition product.—Proc. Am. Pharm. Ass., 1909, v. 57, p. 401.

Lake, H. H. (from K. A. Lingner, Dresden, Germany, Eng. Pat., 8638, April 13, 1907), reports a patent for the manufacture of readily soluble gelatin capsules and coating for pastilles, pills, and the like.—J. Soc. Chem. Ind., Lond., 1908, v. 27, p. 522.

Meyer, K., calls attention to the difficulty of sterilizing solutions of gelatin and the possible danger from tetanus, following hypodermic injections.—Pharm. Ztg., Berl., 1908, v. 53, p. 141.

An unsigned article asserts that solutions of gelatin may be effectively sterilized by heating in a steam bath at 100° C., for one-half hour on 5 consecutive days.—*Ibid.*, 1908, v. 53, p. 292.

It is stated that Santos Fernández reported in the *Revista de Med. y Cir.*, July, 1907, that a patient was clinically cured of pulsating exophthalmos from traumatic aneurism by the injection of gelatin solution.—J. Am. M. Ass., 1908, v. 50, p. 757.

Witthauer, K. (München. med. Wchnschr., v. 55, No. 18), states that great benefit may follow subcutaneous injections of gelatin and salt solution in intestinal hæmorrhage during typhoid fever.—*Ibid.*, 1908, v. 50, p. 2032.

Achard and Aynaud discuss the action of gelatin on the globulins.—Compt. rend. Soc. de biol. Par., 1908, v. 65, p. 332.

GELSEMIUM.

Holm, Theo., describes, with illustrations, the over-ground portion of the plant and rhizome of *Gelsemium sempervirens* Ait., and the internal structure of the vegetative organs.—Merck's Rep., N. Y., 1908, v. 17, pp. 86-89.

Schneider, Albert, asserts that *Gelsemium sempervirens* L., a native of the eastern and southern United States, has been cultivated in California.—Pacific Pharmacist, 1908-9, v. 2, p. 121.

Sayre, L. E., presents some additional observations on the alkaloids of gelsemium, and reports on the physiological properties of the alkaloids and the assaying of preparations of gelsemium.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 851-859.

Pearson, W. A., believes that gelsemium varies within wide limits, both in action and in alkaloidal strength, and that an assay should be introduced.—Am. J. Pharm., Phila., 1908, v. 80, p. 77.

Smith, Kline & French Co. (Analytical Report, 1908, pp. 19, 21) report the assay of 1 sample of extract of gelsemium; total alkaloids, 2.26 per cent; and of 5 samples of fluid extract of gelsemium; total alkaloids in 100 c. c. from 0.145 to 0.966 gm.

Beringer, George M., outlines a formula for fluid glycerate of gelsemium with the procedure to be followed, and asserts that this product remains clear and appears to be a good preparation, and the marc also indicates extraction. It should receive a thorough medical trial and physiological testing. It mixes clear with water, sirup, or diluted alcohol, but alcohol produces a precipitate and turbidity.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 993.

Bell, John, superintendent of the Government Civil Hospital, Hongkong, reports a case of fatal poisoning by gelsemium.—*Lancet*, 1908, v. 174, p. 717.

Waugh, W. F., states that gelseminine is the best remedy we have in replacing opium when the latter is withdrawn in treating the habit. He states that no gelseminine habit is known.—*N. Y. Med. Rec.*, 1908, v. 74, p. 1086.

Miller, W. C., asserts that gelsemium often finds a very important place in typhoid treatment for the bright eyes, flushed cheek, and restlessness.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 520.

Dougall, J. Park, asserts that if he were limited to one remedy in the treatment of Bright's disease, acute or chronic, his choice would be without qualification gelsemium.—*Tr. Nat. Eclect. M. Ass.*, 1908, v. 36, p. 142.

Kopp, Frederick, asserts that gelsemium restores the discharge in suppressed gonorrhœa, accompanied with rheumatism, orchitis and fever. It is one of the best remedies we possess in the acute stage of gonorrhœa when a scanty discharge and intense pain are the most prominent symptoms.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 957.

Longfield, F. J., in discussing the treatment of septicæmia, points out that gelsemium is indicated by flushed face, bright eyes, pupils contracted, restlessness, and increased heat of the head.—*Tr. Nat. Eclect. M. Ass.*, 1908, v. 36, p. 292.

Foltz, K. O., asserts that in supraorbital neuralgia gelsemium with bryonia will usually afford relief in a short time.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 34.

GENTIANA.

Rusby, H. H., found powdered gentian root adulterated with from 25 to 50 per cent of ground fiber. Another lot contained ground olive stones.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 769. (See also *Drug. Circ. N. Y.*, 1908, v. 52, p. 370, and *Proc. Ass. Off. Agric. Chem.*, 1908, v. 25th Ann. Conv., p. 139; *Bull. Bur. Chem.*, U. S. Dept. Agric., 1909, No. 122.)

The Bureau of Chemistry points out that powdered gentian was found mixed with ground peanut shells.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 430.

Schneider, Albert, reports on 4 samples of gentian; 1 pure, 1 deteriorated and 2 adulterated. One with 10 per cent roasted cereal and the other with 50 per cent asclepias or sorrel root.—*Pacific Pharmacist*, 1908-9, v. 2, p. 392.

"Abel Scholar" reports a sample of gentian powder, less than 5 per cent of which was soluble in either alcohol or water.—*Chem. & Drug*, Lond., 1908, v. 72, p. 948.

Marris, G. W., reports an abnormal proportion of woody matter in 2 samples of powdered gentian recently examined. In one case the admixture had the appearance of quassia (probably exhausted).—*Ibid.*, 1908, v. 72, p. 901.

Lothian, John, asserts that powdered gentian was sold for veterinary purposes, and was found to contain about 50 per cent of stone cells. It has hardly any taste and is devoid of medicinal value.—*Pharm. J.*, Lond., 1908, v. 80, p. 566.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 17), report heavy adulteration in the foreign ground drug. In 1 or 2 samples, powdered wood fiber took the place of the familiar "fruit stone" powder. They point out that, as adulteration with exhausted powder is a great source of danger, the determination of the amount of extractive is the best method of examination.

Philipp Röder (Jahresbericht, Wien, 1908, p. 116), reports on 6 samples of gentian which were found to contain from 2.64 to 4.96 per cent of ash and to yield from 29.31 to 47.44 per cent of aqueous extract.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xlvi) point out that while Levantine gentian is usually much cheaper than the same drug of French origin, it is also inferior particularly so far as odor, taste, and extract content are concerned.

Bell, E. Wightman, comments on the frequent adulteration of powdered gentian root and proposes a simple method for the detection of adulterants.—*Pharm. J.*, Lond., 1908, v. 27, p. 255.

Alcock, F. H., proposes a method for the valuation of powdered gentian and tabulates his results as to extractive and ash.—*Ibid.*, 1908, v. 27, p. 353. (See also Year-Book of Pharmacy, 1908, pp. 427-428.)

Beringer, George M., points out that the now official compound tincture of gentian precipitates quite as much as that of the previous revision despite the change in menstruum.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 436. (See also Proc. New Jersey Pharm. Ass., 1908, p. 93.)

Sayre, E. A., asserts that probably every one who makes compound tincture of gentian for the first time from the U. S. P. VIII formula, thinks the new menstruum is fine, a great improvement, let it stand,

the illusion is dispelled, and it's not a thing of beauty.—Proc. New Jersey Pharm. Ass., 1908, p. 107.

Gane and Webster report a variation of from 55 to 56 volume per cent of absolute alcohol in seven different lots of tincture of gentian compound.—Drug Topics, New York, 1908, v. 23, p. 149.

Barnard, H. E., reports on 1 sample of tincture of gentian examined having a specific gravity at 20°C. of 0.9483; alcohol volume per cent, 49.1, and extract 6.68 gms. per 100 c. c.—Rep. Indiana Bd. Health, 1908, p. 341.

Hills, Walter, believes that as the cold water extract of gentian has been shown to be inferior in its keeping properties to the extract made by boiling, no change should be made in the process.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 27.

Beringer, George M., outlines a formula for fluid glycerate of gentian, with the procedure to be followed, and asserts that on evaporating the weaker aqueous portions of the gentian extract there formed, as the concentration approached completion, a gelatinous thickening. On adding the reserve portion and stirring, this was broken up and largely redissolved, and on allowing the product to stand for a few days, with occasional shaking, it almost disappeared. The strained liquid has remained clear and has the bitterness and flavor of the drug. It mixes clear with water, sirup, or diluted alcohol, but alcohol produces a decided turbidity. Proc. Am. Pharm. Ass., 1908, v. 56, p. 994.

GERANIUM.

Holm, Theo., describes and illustrates the several parts of the plant *Geranium maculatum* L.; also describes the structure of the rhizome and the lateral roots.—Merck's Rep., N. Y., 1908, v. 17, pp. 172-175.

Schneider, Albert, asserts that the California species of geranium require further study as regards astringent properties. They are rich in tannin and are perhaps as useful as the official *Geranium maculatum* L.—Pacific Pharmacist, 1908-9, v. 2, p. 121.

Sayre, L. E., reports a sample of fluid extract of cranesbill deteriorated.—Bull. Kansas Bd. Health, 1908, v. 4, p. 296.

Beringer, George M., outlines a formula for fluid glycerate of geranium, with the procedure to be followed, and asserts that no sediment has formed in this product, and it appears to be an excellent form for the administration of this drug, the valuable astringent principles being well extracted. It mixes clear with sirup or diluted alcohol, cloudy with water, and turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 994.

GLANDULÆ SUPRARENALES SICCÆ.

Freund, Moritz Max, has secured a patent for a pure solution of the active principle of the suprarenal, $C_9H_{13}O_3N$, which is obtained by subjecting the aqueous solutions to the action of electrolytic H.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, No. 24, p. 3383.

Pearson, W. A., believes that desiccated suprarenal glands should be tested physiologically.—Am. J. Pharm., Phila., 1908, v. 80, p. 77.

Gane and Webster point out that druggists who have occasion to dispense suprarenal gland should exercise more than ordinary care in keeping the powder after the package has been opened. The powdered gland is extremely liable to contamination by insects, especially the common fly.—Drug Topics, New York, 1908, v. 23, p. 372.

Sardou, G. (Bull. Acad. de Méd., Par., v. 72, no. 33), reports that the application of suprarenal extract to the skin has a remarkable influence on the subcutaneous tissues, and even on the abdominal organs and joints.—J. Am. M. Ass., 1908, v. 51, p. 1908. See also under Epinephrina.

GLANDULÆ THYROIDEÆ SICCÆ.

Pearson, W. A., thinks that desiccated thyroid glands should be tested physiologically.—Am. J. Pharm., Phila., 1908, v. 80, p. 77.

Peltriset, C. (Bull. des sc. pharmacol., 1908, No. 3), discusses the microscopic examination of organo-therapeutic preparations. The description, with illustrations, of powdered thyroid is reproduced.—Pharm. Ztg., Berl., 1908, v. 53, pp. 573-574.

Fürth and Schwarz (Pflügers Arch., 1908, Bd. 124, H. 6-8) discuss the nature of the blood pressure lowering substances in the thyroid.—Biochem. Centralbl., Leipz., 1908, v. 7, p. 918.

Hunt and Seidell discuss the relation of iodine to the physiological activity of thyroid preparations. They present a review of the literature of the subject and report a number of experiments to determine the effect of feeding thyroid upon the susceptibility of animals to various poisons.—Bull. Hyg. Lab., U. S. P. H. and M.-H. S., 1908, No. 47, p. 112.

They find a parallelism between the iodine content of the thyroid gland and its physiologic activity. They also found that a number of proprietary preparations intended for use by the laity contain thyroid, though there is no indication of this on the label.—J. Am. M. Ass., 1908, v. 51, pp. 1385-1388. (See also Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, pp. 108-121.)

An abstract of an article by Hunt and Seidell calls attention to some of the proprietary preparations containing thyroid.—Drug Topics, New York, 1908, v. 23, p. 323.

Marine and Williams discuss the relation of iodine to the structure of the thyroid gland. They conclude that the percentage of iodine varies with the amount of colloid in the several degrees of hyperplasia. They also point out that the commercial desiccated thyroid has a very inconstant iodine content and therefore a variable physiologic activity and therapeutic value.—Arch. Int. Med., 1908, v. 1, pp. 349-384.

Koch, F. C., reports finding a variation of 300 per cent in the iodine content of sheep's thyroids. He asserts that it is highest in the winter and lowest in the summer months.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 122.

Labbé, Vitry, and Giraud report experiments to determine the iodine content of thyroids from tuberculous animals and point out that the total content of iodine varied considerably.—Compt. rend. Soc. de biol., Par., 1908, v. 65, pp. 371-372.

Kraus and Friedenthal (Berl. Klin. Woch. H. 38, Sept., 1908) report observations on the pharmacodynamic action of thyroids.—Biochem. Centralbl., Leipz., 1908, v. 7, p. 918.

Orgler, Arnold, discusses the influence of the administration of thyroids on the nitrogen metabolism of children. He concludes that the administration of even large doses of thyroid to children does not materially influence their general condition.—Ztschr. f. exper. Path. u. Therap., 1908, v. 5, pp. 1-16.

Le Febvre, E. (Med. Rec., N. Y., Apr. 25), states that thyroid extract is a drug which must not be entrusted to the patient.—J. Am. M. Ass., 1908, v. 50, p. 1558.

Frankenheimer, Jule B., discusses *Adiposis dolorosa* and states that the improvement seen when thyroid extract is administered must be considered in the study of the etiology.—*Ibid.*, 1908, v. 50, p. 1013.

Sajous, C. E. de M. (Month. Cycl. Pract. Med., Phila., 1908, 22, 119; 159), discusses the applied therapeutics of thyroid preparations.—Index Medicus, 1908, v. 6, p. 949.

A number of references on the properties and uses of thyroid gland will be found in the Index Medicus, J. Am. M. Ass., and Compt. rend. Soc. de biol., Paris.

GLYCERINUM.

An editorial discusses the production and consumption of glycerin and points out that the consumption of this article in America, under ordinary circumstances, is in the neighborhood of 32,000 tons a year, of which about one-half is of native production and the balance is imported from Europe.—Oil, Paint, and Drug Reporter, New York, 1908, v. 74, November 30, p. 7.

Stritar and Fanto present some additional observations on the theory of saponification and the liberation of glycerin.—*J. f. prakt. Chem.*, Leipz., 1908, v. 78, pp. 35–41.

Hills, Walter, in addition to the tests already required, suggests a further test for lead.—*Rep. Com. Ref. Genl. Med. Council* (to October 29, 1908), Lond., 1908, p. 27.

Hill, Charles Alexander, suggests as a standard for glycerin no lead, and not exceeding 2 parts per million arsenic.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Bergh, Gustav Fr., reports observations on the detection of organic contaminations in glycerin.—*Svensk. farm. Tidskr.*, 1908, v. 12, pp. 265–274, 285–292. (See also *Apoth. Ztg.*, Berl., 1908, v. 23, p. 689.)

Barnard, H. E., reports on 6 samples of glycerin examined, which were of average quality, although none were strictly U. S. P. He thinks it is not possible to purchase a glycerin sufficiently free from butyric acid and organic matter to meet these requirements.—*Rep. Indiana Bd. Health*, 1908, p. 320.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22) report that of 39 samples of glycerin examined by them, 14 were inferior; 1 contained a trace of arsenic.—(See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 75.)

Scoville, W. L., found that nearly one-half of the samples of glycerin examined by him contained a trace of arsenic.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 770.

Philipp Röder (*Jahresbericht*, Wien, 1908, pp. 83–84) reports on 3 samples of glycerin, the absolute glycerin content of which was found to vary from 94 to 95.3 per cent; 2 of the samples contained traces of chlorine, but all were free from arsenic.

An unsigned note quotes Catillon to the effect that the figures given by Ossendowski in his "Solubility of certain salts in glycerin" (*Pharm. J.*) are erroneous, not applying to pure glycerin. Catillon claims that his own figures in his work entitled "Concerning glycerin" are exact.—*Répert. d. pharm.*, Par., 1908, v. 20, p. 8.

Fearn, John, asserts that 25 per cent glycerin added to water makes a splendid addition and a good vehicle.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 353.

Reach, Felix, reports observations on the destiny of glycerin in the animal organism.—*Biochem. Ztschr.*, Berl., 1908, v. 14, pp. 279–285.

Felter, H. W., asserts that glycerin forms an excellent addition when such lotions as of boric acid and salicylic acid are to be applied to the cutaneous surfaces.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 399.

Levy and Krencker review the literature relating to the bactericidal action of glycerin and report a number of experiments to demonstrate the efficiency of this article with various microorganisms.—*Hyg. Rundschau*, 1908, v. 18, pp. 323–330.

GLYCERITA.

GLYCERITUM BISMUTHI, N. F.

Squibb, E. H., suggests that the manipulation directed in the N. F. formula for bismuth glycerite be modified by using 5,000 cc. of distilled water instead of 1,000 cc. for diluting the magma produced. This insures complete precipitation of the bismuth salt. No change is required in other respects.—Bulletin Am. Pharm. Ass., 1908, v. 3, p. 280.

GLYCERITUM FERRI. QUININÆ ET STRYCHNINÆ PHOSPHATUM.

Cook, E. Fullerton, has found difficulty in keeping the glycerite of iron, quinine, and strychnine: 2 samples, 1 made in the winter, the other in the summer, have both crystallized into a solid mass within a few days.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 959.

GLYCYRRHIZA.

Ozmun, Edward H., consul general at Constantinople, discusses the production of licorice in Turkey and points out that the Ottoman Empire produces upward of 36,600 tons annually, while Russia produces 22,400 tons. The product of these two countries is exported almost entirely to the United States.—Paint, Oil and Drug Review, Chicago, 1908, v. 46, November 11, p. 22.

Gawalowski, A., reports on experiments made in the cultivation of glycyrrhiza and suggests that similar experiments be made in the United States.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 143.

Kowalejew, S. G. (Pharm. Journ. (Russ.), 1908, 1063), infers from a comparative pharmacognostic and chemical examination of "chuntschir," an Asiatic variety of licorice root, and other commercial sorts of licorice root, that *Glycyrrhiza uralensis*, Fisch., is the mother plant of chuntschir. The habitat and general characteristics of *Glycyrrhiza uralensis*, Fisch., are given.—Proc. Am. Pharm. Ass., 1909, v. 57, p. 214.

Schneider, Albert, points out that *Glycyrrhiza lepidota glutinosa*, Pursh., a native of California, is much like *G. glabra* and can no doubt be substituted for the true licorice. Cultivation is said to increase the active constituents.—Pacific Pharmacist, 1908-9, v. 2, p. 144.

Harvey, T. F., reports that 44 samples of decorticated root yielded cold-water extract 21 to 33 per cent, mostly over 23 per cent.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Philipp Röder (Jahresbericht, Wien, 1908, p. 120) reports on 4 samples of glycyrrhiza, which were found to contain from 4.32 to 5.43 per cent of ash and from 33.37 to 42.87 per cent of aqueous extract.

Alcock, F. H., asserts that commercial powdered licorice is a most mysterious thing. He reports on 2 samples which varied from 25 to 27 per cent of extractive and from 1.5 to 3.8 per cent of ash in the residue.—Year-Book of Pharmacy, 1908, p. 428. (See also Pharm. J. Lond., 1908, v. 27, p. 353.)

Rusby, H. H., found powdered licorice root consisting of peelings of Russian licorice.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

Lothian, John, reports on powdered licorice which had evidently been ground with the bark on and refers to Dohme's assay process founded on the determination of the glycyrrhizin content. (Drug. Circ., Aug., 1897.)—Pharm. J., Lond., 1908, v. 80, p. 566.

Havenhill, L. D., asserts that powdered glycyrrhiza is often found deficient in the characteristic principle. He points out that this drug enters into the composition of so many of the official preparations that it is, from a pharmaceutical standpoint, a very important one.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 932.

Sayre, L. E., points out that the menstruum for fluid extract of glycyrrhiza was changed from 28 per cent alcohol, U. S. P., 1890, to 19 per cent alcohol and 2 per cent glycerin, U. S. P. VIII.—Merck's Rep., N. Y., 1908, v. 17, p. 4.

Beringer, George M., asserts that fluid extract of glycyrrhiza U. S. P. is not satisfactory, and proposes an improved formula.—Am. J. Pharm., Phila., 1908, v. 80, p. 435. (See also Proc. New Jersey Pharm. Ass., 1908, p. 93.)

Hemm, Francis, finds the whole manipulation inconvenient, laborious, expensive, and time-consuming to the retail pharmacist, who will not use it. He asks if a formula could not have been readily devised to use a purified aqueous licorice paste on the N. F. plan.—Proc. Missouri Pharm. Ass., 1908, p. 84.

Cassin, E. E., objects to the official method for preparing fluid extract of glycyrrhiza and points out that it entails too great a waste of alcohol and requires too long a time. He suggests exhausting the drug with hot water, concentrating the percolate by evaporation, precipitating after the addition of alcohol, filtering, and, finally, adding the glycerin.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 87.

Hallberg, C. S. N., in commenting on the above formula submitted samples of the product 15 months and 3 months old, to show that the older preparation possessed a more agreeable ethereal odor and flavor than the more recent product.—*Ibid.*, 1908, v. 3, p. 87.

Gane and Webster report a variation of from 17 to 19 volume per cent of absolute alcohol in 8 different lots of fluid extract of licorice.—Drug. Topics, New York, 1908, v. 23, p. 149.

Beringer, George M., outlines a formula for fluid glycerate of glycyrrhiza with the procedure to be followed, and asserts that the product is rich in flavor of licorice and the marc shows that the drug

has been exhausted. It has remained clear and forms clear mixtures with water, sirup, or diluted alcohol, but turbid with alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 994.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906: 7 samples of extract of glycyrrhiza examined, 2 genuine and 5 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 77.

Gane and Webster point out that the commercial powdered licorice extract is usually prepared from the imported stick licorice and varies greatly in quality. They report on 3 samples which varied from 4.71 to 5.95 ash and from 26.25 to 28.75 per cent matter insoluble in water.—*Drug. Topics*, New York, 1908, v. 23, p. 373.

Havenhill, L. D., asserts that there is now on the market a powdered extract of licorice which meets the present official requirement of 60 per cent of soluble matter, yet it contains but a very small amount of the sweet principle. He suggests that the nature of the solvent directed in this test should be changed, but an assay process for glycyrrhizin would be equally desirable.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 932.

Dohme and Engelhardt report on a sample of powdered extract of licorice containing 30 per cent of water insoluble matter (starch).—*Ibid.*, 1908, v. 56, p. 817.

Lythgoe, Hermann C., reports that 2 of the samples examined contained about 25 per cent corn starch.—*Rep. Massachusetts Bd. Health*, 1908, p. 604.

Hommell, P. E., suggests that the U. S. P. should contain an aromatic syrup of licorice; this would be useful to cover the bitter taste of the alkaloids, quinine and cinchonidia, besides other agents.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 101.

GLYCYRRHIZINUM AMMONIATUM.

Tschirch and Gauchmann present some additional observations on the chemistry of glycyrrhizin, and also present observations on the occurrence of glycyrrhizin in plants other than glycyrrhiza.—*Arch. d. Pharm.*, 1908, v. 246, pp. 545-565.

Barillé, A., comments on the discovery of glycyrrhizate of ammonia (glyzine) by Z. Roussin.—*J. de pharm. et de chim., Par.*, 1908, v. 27, pp. 571-574.

GOSSYPII CORTEX.

Beringer, George M., points out that cottonwood bark is commonly administered either as a fluid extract or as solid extract, and that one or both of these preparations should be included in the Pharmacopœia.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 431.

Sayre, L. E., reports that of the 2 samples of fluid extract of cotton root bark examined, 1 had deteriorated and 1 was deficient in alcohol.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 154, 295.

Beringer, George M., outlines a formula for fluid glycerate of cotton root bark, with the procedure to be followed, and asserts that the product deposited a scant sediment and appeared to be a satisfactory preparation. It mixes clear with water, sirup, or diluted alcohol; and turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 991.

GOSSYPIUM PURIFICATUM.

An extract from the Jamaica Almanac for 1787 (reprinted in Bull. Dept. Agric., Jamaica, 1907, v. 5, p. 43) presents some observations on the planting of cotton in the year 1786. Some figures relating to the export and import of cotton are also presented.

The British Pharmaceutical Codex, under the title *carbasus*, includes a monograph descriptive of absorbent gauze, and also includes directions for preparing all of the medicated gauzes in general use.—Pharm. J. Lond., 1908, v. 26, p. 672.

GRANATUM.

Carr and Reynolds found pomegranate root bark varying from 0.12 per cent to 0.29 per cent in total alkaloids.—Pharm. J. Lond., 1908, v. 80, p. 543.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xviii) assert that the alkaloid content of the available pomegranate bark is usually below the Ph. Germ. IV requirement of 0.413 per cent of alkaloids.

Beringer, George M., outlines a formula for fluid glycerate of pomegranate, with the procedure to be followed, and asserts that the product is a perfectly clear, astringent, and bitter liquid, which doubtless represents the drug, and should prove a valuable remedy. It mixes clear with sirup or diluted alcohol, and turbid with water or alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 999.

GRINDELIA.

Schneider, Albert, points out that *Grindelia robusta*, Nutt., and other more or less similar species are natives of California and could no doubt be grown profitably.—Pacific Pharmacist, 1908-9, v. 2, p. 144.

Tunmann, O., describes and illustrates the pharmacognostic and microscopic characteristics of *Grindelia robusta*.—Pharm. Zentralh., 1908, v. 49, pp. 457-465.

GUAIACOL.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22) report that all of the 6 samples of guaiacol examined by them were satis-

factory except one, having a specific gravity of 1.134.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 75.

Cain, M. G., discusses the use of guaiacol in the treatment of pneumonia and reports treating upward of 50 cases with uniformly good results. The dose employed is from 5 to 30 minims, but the average dose is 20 minims for adults and 10 minims for a child one year of age. The drug is dropped slowly from the medicine dropper and rubbed in with the end of one finger.—Merck's Arch., N. Y., 1908, v. 10, pp. 75-76.

GUAIACOLIS CARBONAS.

Frey, Otto, asserts that guaiacol carbonate melts at from 88° to 88.5°.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 663.

GUAIACUM.

An unsigned article describes the origin and uses of gum guaiacum.—Sc. Am. Suppl., 1908, v. 65, p. 114.

Lehn & Fink (Annual Report for 1908, p. 17) report the results of their examination of 7 lots of guaiacum, and present a table showing the per cent of ash and alcohol soluble matter of each sample.

Philipp Röder (Jahresbericht, Wien, 1908, p. 125) reports on 2 samples of guaiac which were found to contain 0.32 and 0.68 per cent of ash, respectively.

Alcock, F. H., reports finding samples of powdered guaiacum containing from 7 to 18.8 per cent of material insoluble in alcohol.—Yearbook of Pharmacy, London, 1908, p. 430. (See also Pharm. J. Lond., 1908, v. 27, p. 354.)

Woolsey, J. F., reports on 7 samples of guaiac: 2 powdered and 5 lump. The former had a solubility in alcohol of 76.08 and 76.44; an acid number of 60 and 80; an ash percentage of 5.78 and 4; no rosin; and a solubility in petroleum benzin of 12.78 and 17.80, respectively. The 5 lump samples varied in alcoholic solubility from 90.38 to 98.60, one being practically complete; in acid number from 67 to 105; in ash percentage from 0.02 to 2.23; no rosin; and from 1 to 1.98 solubility in petroleum benzin. Variation from U. S. P. requirements is quite considerable.—Proc. Pennsylvania Pharm. Ass., 1908, p. 86.

Hollingsworth, T. D., asserts that tincture of guaiac is regarded by some physicians as a specific for suppurative tonsillitis.—Eclectic M. J. Cincin., 1908, v. 68, p. 383.

Abbott, Solon, asserts that guaiacum is indicated in rheumatism with contractions of the limbs. Pain is excited by the slightest motion, much heat in the affected part.—J. Therap. and Dietet., Boston, 1908-9, v. 3, p. 205.

GUARANA.

Umney and Bennett assert that the U. S. P. assay process for guarana is very good, and the alkaloid is obtained in a high state of purity.—Pharm. J. Lond., 1908, v. 27, p. 345.

Vanderkleed, Charles E., reports on 1 sample of guarana assaying 3.660 per cent of caffeine.—Proc. Pennsylvania Pharm Ass., 1908, p. 88.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 18) report on a sample of guarana yielding 4.7 per cent of caffeine.

Philipp Röder (Jahresbericht, Wien, 1908, p. 84) reports 4 samples of guarana which were found to contain from 1.17 to 2.04 per cent of ash, and from 5.15 to 6.42 per cent of caffeine.

Beringer, George M., outlines a formula for fluid glycerate of guarana, with the procedure to be followed, and asserts that the product, while not as deep in color as the fluid extract, is bright, clear, and rich in the peculiar flavor of the drug. It mixes clear with sirup, slightly cloudy with water or diluted alcohol, and still more cloudy with alcohol. It is one of the good preparations in these experiments and assayed 3.8 gm. of the alkaloid in 100 cc.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 994.

HÆMATOXYLON.

Beringer, George M., outlines a formula for fluid glycerate of hæmatoxylon, with the procedure to be followed, and asserts that this is a good product that has shown no signs of sediment and fully represents the astringency of the drug. It makes clear solutions with water, sirup, alcohol, or diluted alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 995.

HAMAMELIDIS CORTEX.

Beringer, George M., outlines a formula for fluid glycerate of hamamelis bark, with the procedure to be followed, and asserts that this is a good preparation that has not deposited any sediment and no doubt fully represents the drug. It mixes clear with water, sirup, or diluted alcohol, and almost clear with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 995.

HAMAMELIDIS FOLIA.

Schneider, Albert, asserts that *Hamamelis virginica* L., has been introduced into California and has been cultivated as an ornamental plant. The leaf infusion is much used to rub on flea bites, as a mild counterirritant, and as a mild antiseptic for poison oak; also taken internally.—Pacific Pharmacist, 1908-9, v. 2, p. 145.

Rosenthaler, L., presents a contribution, with illustrations, on the anatomy of hamamelis leaves.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 343–345.

Beringer, George M., outlines a formula for fluid glycerate of hamamelis leaves, with the procedure to be followed, and asserts that it is a good preparation without any sign of sediment and having a pleasant astringent taste and a faintly aromatic and herbaceous odor. It mixes clear with water, sirup, or diluted alcohol, but alcohol produces a coagulation and turbidity.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 995.

AQUA HAMAMELIDIS.

The report of the therapeutic committee of the British Medical Association in suggesting the deletion of this drug asserts that it is little more than a weak solution of alcohol.—Suppl. Brit. M. J., Lond., 1908, v. 2, p. 320. (See also Pharm. J., Lond., 1908, v. 27, p. 811.)

Fischer, R., reports that of 111 samples examined 91, or 82 per cent of the total, were passed as lawful. Thirteen were between 70 and 80 per cent strength in alcohol, 1 was of 50 per cent, and 1 of only 25 per cent; 5 of the samples contained either formaldehyde or wood alcohol or both.—Proc. Wisconsin Pharm. Ass., 1908, p. 41. (See also Rep. Dairy & Food Com. Wisconsin, 1909, p. 102.)

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 235 samples of aqua hamamelidis spirituosus, 211 genuine and 24 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Fitz-Randolph, R. B., reports that of 143 samples examined 2 were found to differ from the pharmacopœial requirements. One contained formaldehyde, the other was deficient in alcoholic strength.—Rep. New Jersey Bd. Health, 1908, p. 225.

Dunlap, Renick W., reports on 2 samples of extract of witchhazel which were found to be adulterated.—Rep. Dairy & Food Com., Ohio, 1909, p. 52.

Homsher, R. D., asserts that hamamelis, as a lotion and as an internal remedy, parallels marigold in many ways.—Tr. Nat. Eclect. M. Ass., 1908, v. 36, p. 86.

Foltz, K. O., asserts that the distilled extract of hamamelis is used in those cases of conjunctivitis where the secretions are thin, watery, and nonexcoriating. He also points out that the local use of this drug for catarrhal conditions elsewhere is worthy of study.—Eclectic M. J., Cincin., 1908, v. 68, p. 33.

HEXAMETHYLENAMINA.

Denis, Armand, presents a contribution to the study of hexamethylenamine, its chemistry, and the chemistry of some of its derivatives.—J. de pharm. d'Anvers, 1908, v. 64, pp. 33–38.

Brown and Otten outline a method for the quantitative determination of hexamethylenamine alone or in mixtures.—*Merck's Rep.*, N. Y., 1908, v. 17, pp. 259–260.

Puckner and Hilpert outline a method for the detection and estimation of hexamethylenamine in pharmaceutical mixtures.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1471–1474.

Mossler, Gustav, discusses the chemical structure, pharmacodynamic action, and tests for urotropin and related compounds.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, pp. 161–162.

Crowe, S. J., reports observations on the excretion of hexamethylenamine in the bile and pancreatic juice. He has been able to demonstrate that when given by the mouth hexamethylenamine appears in the bile and pancreatic juice of dogs. It has also been demonstrated in the bile, cerebrospinal fluid, synovial fluid, saliva, pleural effusion, and blood of man.—*Arch. internat. de pharmacod. et de therap.*, 1908, v. 18, pp. 314–325.

Denigès and Labat discuss the detection of hexamethylenamine in urine.—*Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 230–233.

Mallannah, S., considers urotropin a specific remedy for hemeralopia, which he attributes to faulty nutrition and to diminished alkalinity of the blood.—*Brit. M. J.*, 1908, v. 1, p. 444.

Longfield, F. J., in discussing the treatment of septicaemia, points out that urotropin is indicated in cases of cystitis and as a urinary antiseptic.—*Tr. Nat. Elect. M. Ass.*, 1908, v. 36, p. 292.

Beardsley, John Gillespie, discusses the toxic effects of urotropin and reviews a number of cases of reported poisoning. Also gives a lengthy bibliography.—*Therap. Gaz.*, Detroit, 1908, v. 32, pp. 19–23.

HOMATROPINÆ HYDROBROMIDUM.

Duane, Alexander (*N. Y. State Jour. Med.*, July, 1908) discusses the use of homatropine in refraction work and asserts that the cases in which homatropine proves inefficient as a cycloplegic are few.—*Merck's Arch.*, N. Y., 1908, v. 10, p. 303.

• HUMULUS.

Schneider, Albert, asserts that hop culture is one of the most important industries in California. The plant has escaped from cultivation in different parts of the State.—*Pacific Pharmacist*, 1908–9, v. 2, p. 212.

The report of the Bureau of Plant Industry points out that the hop-breeding work undertaken on the Pacific coast has been continued with very interesting results.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 282.

The report of the therapeutic committee of the British Medical Association in suggesting the deletion of hops and its preparations

asserts that the drug is unnecessary.—Suppl. Brit. M. J., Lond., 1908, v. 2, p. 320.

Chapman, Alfred C. (J. Inst. Brew., 13, 646), reports results of his estimation of hop tannin based on the fact that gallotannic acid forms precipitates with the alkaloids.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, No. 10, p. 1477.

Beringer, George M., outlines a formula for fluid glycerate of hops, with the procedure to be followed, and asserts that this product at once deposited a small amount of sediment which was readily strained off, and the liquid has remained clear from sediment, but having an opalescence. It possesses in a marked degree the bitterness and aroma of hops. It mixes clear with diluted alcohol and cloudy with water or sirup and turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 995.

Additional references on the cultivation and the use of hops will be found in Exp. Sta. Rec.

HYDRARGYRI CHLORIDUM CORROSIVUM.

Kempf, Richard, discusses the sublimation of corrosive mercuric chloride and the possible application of vacuum sublimation in the production of this substance. He found the melting point of the sublimed substance to be from 282–283°, while the melting point, as given in the literature, is 265° C.—J. f. prakt. Chem., Leipz., 1908, v. 78, pp. 231 and 256.

Blome, Walter H., reports on 1 sample of mercuric chloride having a trace of cadmium.—Proc. Michigan Pharm. Ass., 1908, p. 93.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 91–92) reports that of 3 samples of corrosive mercuric chloride examined 1 was rejected because of the presence of sodium chloride.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 24), report that they examined 16 samples of mercuric chloride which satisfied the official requirements. From 73 to 73.5 per cent of mercury was obtained.

Fiora, Paola, outlines a method for the rapid estimation of mercuric chloride by means of potassium or sodium iodide.—Boll. chim. farm., Milan, 1908, v. 47, pp. 401–402.

Liversedge, S. G., outlines a method for the rapid estimation of mercuric chloride in aqueous solution, for which he takes advantage of the ready solubility of mercuric iodide in ether.—Analyst, London, 1908, v. 33, p. 217.

Rimini, Enrico, reports experiments on the assay of pastilles of mercuric chloride.—Boll. chim. farm., Milan, 1908, v. 47, pp. 112–115. (See also Apoth. Ztg., Berl., 1908, v. 23, p. 336.)

Enell, Henrik, discusses the assay of mercuric chloride pastilles.—Svensk. farm. Tidskr., 1908, v. 12, pp. 121–123.

The same author reports observations on the testing of mercuric chloride.—*Ibid.*, 1908, v. 12, p. 141.

Crume, George P., states that he has used the intravenous method of administering soluble salts of mercury in the treatment of syphilis. He discusses the technique, the advantages, and the disadvantages and states that the method is not intended for routine practice, but is useful in suitable cases.—*J. Am. M. Ass.*, 1908, v. 51, pp. 2155-2156.

Dohi, Sh., reports observations on the hæmolytic action of sublimate and concludes that this substance acts hæmolytically in solutions as dilute as 1:10,000 to 1:1,000,000. Washed blood corpuscles are less resistant than natural blood, though the protective influence of the serum varies with different animals.—*Ztschr. f. exper. Path. u. Therap.*, 1908, v. 5, pp. 626-645.

Castaigne and Rathery report observations on kidney lesions produced by experimental intoxication with corrosive sublimate.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 58-60.

An editorial (*N. York M. J.*, 1908, v. 88, p. 606) calls attention to a contribution by Salva Mercadé (*Arch. gén. de méd.*, July) on the occasional toxic action of corrosive sublimate. As a general thing untoward results are produced only when one of the natural cavities of the body is irrigated with the solution or when it is used in ragged wounds, so that some of the liquid is retained. In all instances the poison must be eliminated as soon as possible by means of diuretics, the stomatitis may be combated with potassium chlorate, and collapse should be met with injections of ether and caffeine.

Petit and Milhit (*Presse méd., Par.*, v. 16, No. 65) report a case where a young woman took 1.3 gm. (about 20 grains) of corrosive sublimate. There was a severe transient pericarditis, without effusion, lasting several weeks.—*J. Am. M. Ass.*, 1908, v. 51, p. 1039.

An editorial, in commenting on the report of a case of poisoning, through mistaking corrosive sublimate tablets for lithia tablets, asserts that it emphasizes anew the necessity of keeping these dangerous tablets in bottles of special design and the wisdom of coloring bichloride tablets and solutions with some distinctive dye.—*Am. Druggist*, N. Y., 1908, v. 53, p. 1.

Gascard and Bance report a case of poisoning by corrosive sublimate, with death on the 25th day, in which they were subsequently able to demonstrate the presence of mercury in the various organs of the body.—*J. de pharm. et de chim., Par.*, 1908, v. 28, pp. 5-8.

HYDRARGYRI CHLORIDIUM MITE.

Yamamoto, C., outlines a method for the preparation of mild mercurous chloride. He heats a mixture of mercury, oxide of iron, and the mother liquor from salt works, consisting largely of magnesium chloride. The calomel sublimes from this mixture in well-formed

crystalline scales that require but a single washing with water to free them from adhering corrosive mercuric chloride.—*J. Pharm. Soc. Japan.*, 1908, p. 319.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 93 samples of calomel tablets, 2 of which were below standard.

Slizewicz and Boucher report experiments to determine the variation in the quantity of calomel in ampoules and conclude that mixtures of calomel and oil should not be dispensed in this form.—*Bull. pharm. du Sud-est, Montpel.*, 1908, v. 13, pp. 404–408.

Pollacci, Egidio, describes the use of mild mercurous chloride as a reagent for sulphocyanides.—*Arch. farmacol, sper.*, Roma, 1908, v. 7, pp. 94–96.

Vorberg, G. (*Medizinische Klinik. Berl.*, v. 4, No. 28), has collected from various society proceedings a number of cases of the prophylactic use of calomel salve against syphilis with disastrous results, although used strictly according to directions.—*J. Am. M. Ass.*, 1908, v. 51, p. 176. (See also report of case by Wolbarst.—*Med. Rec. N. Y.*, 1908, v. 74, p. 711.)

Romberg (*Münchn. med. Wehnschr.*, v. 55, No. 39) states that sodium salicylate and calomel act injuriously on the kidney, and that calomel should not be given when there is the least suspicion of nephritis.—*J. Am. M. Ass.*, 1908, v. 51, p. 1650.

Klotz, Herman G., discusses the use of mercurials for the late manifestations of syphilis, and concludes that calomel is the most reliable for intramuscular injection.—*Ibid.*, 1908, v. 51, pp. 1954–1958.

HYDRARGYRI IODIDUM FLAVUM.

Blome, Walter H., reports on one sample of mercurous iodide having a slight trace of mercuric iodide.—*Proc. Michigan Pharm. Ass.*, 1908, p. 93.

Dohme and Engelhardt report on a shipment of yellow mercurous iodide which had to be rejected because it contained too much red mercuric iodide.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 818.

Eliot, Gustavus, asserts that mercury in the treatment of syphilis is to be placed at the head of all therapeutic agents, and that the protoiodide of mercury is the most generally applicable preparation of mercury.—*Boston M. & S. J.*, 1908, v. 158, p. 251.

HYDRARGYRI IODIDUM RUBRUM.

Kohn, Moritz, presents several observations on the decomposition of mercuric iodide.—*Ztschr. f. anorg. Chem.*, 1908, v. 59, pp. 108–110.

Merck, E., points out that the solubility of red mercuric iodide in alcohol, as given in the *Ph. Helv. IV*, is incorrect, and asserts that this salt is soluble in 250 parts of cold and in 50 parts of boiling

alcohol.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 340.

Labat, A., outlines a method for making a solution of mercuric iodide and atoxyl. using sodium iodide to facilitate solution.—Bull. Soc. de pharm. de Bordeaux, 1908, v. 48, pp. 14–15.

HYDRARGYRI OXIDUM FLAVUM.

Nygaard, A. (Farm. Notisblad, 1908, No. 18, 256–257), states that commercial yellow oxide of mercury frequently contains fibers of filter paper derived from the paper on which the precipitate is collected or dried. This foreign matter is readily seen when the oxide is dissolved in nitric acid. He indicates the means of avoiding this impurity in an article intended for ophthalmic use.—Proc. Am. Pharm. Ass., 1909, v. 57, p. 280.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 92–93) reports that of 5 samples of yellow mercuric oxide examined 2 were rejected because of the presence of appreciable quantities of chloride in one, and of iron in the second.

van Wermeskerken, J. L., reports a sample of yellow oxide of mercury which on examination proved to be finely triturated red oxide of mercury and was not completely volatile.—Pharm. Weekblad., 1908, v. 45, p. 211.

Rupp and Schirmer (Pharm. Ztg., liii, 1908, No. 94, 928) have devised an indirect method for the estimation of mercuric oxide.—Proc. Am. Pharm. Ass., 1909, v. 57, pp. 279–280.

The pharmacopœial revision committee of the Rhenish Chamber of Apothecaries (Apoth. Ztg., xxiii, 1908, No. 18, 179) proposes a formula and process for preparing yellow mercuric oxide by the humid method, providing for its immediate incorporation into ointment.—*Ibid.*, 1908, v. 56, p. 287.

HYDRARGYRI OXIDI RUBRUM.

van Wermeskerken, J. L., reports a sample of red oxide of mercury not completely volatile and not completely soluble in hydrochloric acid.—Pharm. Weekblad., 1908, v. 45, p. 211.

HYDRARGYRUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 23) report that all 3 samples of mercury examined by them were of U. S. P. quality except that they contained a small amount of other metals.

Brown, Linwood A., describes a rapid volumetric method for estimating mercury in insoluble salts of that element, by means of iodic acid, determining the mercury either as mercuric iodate or liberating

the contained iodine and titrating this.—Merck's Rep., N. Y., 1908, v. 17, pp. 57-58.

Rupp, E., discusses the volumetric estimation of mercury by titration with sulphocyanide, by precipitation with formaldehyde and subsequent treatment in acid solution with potassium iodide and by an acidimetric method involving precipitation as mercuric cyanide.—Chem. Ztg., 1908, v. 32, pp. 1077-1079.

Dumesnil presents the report of the commission charged with establishing a formula for gray oil.—Répert. d. pharm. Par., 1908, v. 20, p. 35. (See also *Ibid.*, pp. 36, 38.)

Schrauth, W., discusses the synthetic combinations of mercury and points out that the organic salts of mercury offer a wide field for research and study with possibilities of great promise.—Chem. Ztg., Cöthen., 1908, v. 32, pp. 577-578.

Wright, Barton Lisle, recommends the use of mercury in the treatment of tuberculosis, and reports a number of cases in which it has been employed successfully.—J. Am. M. Ass., 1908, v. 51, pp. 1854-1856.

Leming, W., asserts that mercury in one-hundredth grain doses, or less, every two or three hours, will accomplish more in syphilis in a few days than any other drug, but it should be discarded when eruption becomes bright and the color of the mucous linings heightened, and should not be continued until decay has set in to the shame of the drug and physician.—Tr. Nat. Eclect. M. Ass., 1908, v. 36, p. 143.

Bernstein, Ralph, recommends mercurius among the remedies indicated in cases of eczema.—Hahnemann. Month., Phila., 1908, v. 43, p. 369.

Sabbatani, L., presents a report on physiologic chemical observations on the pharmacologic and toxicologic action of mercury.—Biochem. Ztschr., Berl., 1908, v. 11, pp. 294-310.

HYDRARGYRUM AMMONIATUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 23) report that the 1 sample of ammoniated mercury they examined was of U. S. P. quality.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 24) report the mercury content of 11 lots of mercuric ammonium chloride examined by them to have been between 76.8 and 79 per cent.

Harvey, T. F., reports that 27 samples showed 76 to 79 per cent of mercury, mostly under 78 per cent. Two samples showed 72.5 and 73.7 per cent. The method used throughout involved reduction by means of hypophosphorous acid, the mercury being washed succes-

sively with water, alcohol, ether, and dried in the desiccator.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 88-91) discusses the testing of ammoniated mercury and reports that of 11 samples examined only 4 were accepted; the remaining 7 were rejected because of the presence of an undue amount of contamination. Four of the rejected samples contained sulphocyanates.

Merek, E., asserts that the Ph. Helv. IV test for absence of chloride is too stringent.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 341.

HYDRARGYRUM CUM CRETA.

May, Otto B., examined 6 samples of mercury with chalk and found 4 which complied fully with the present requirements for limit of mercurous and mercuric oxides. The remaining 2 samples gave such marked reactions that they were considered objectionable. He suggests that the test be made more definite by substituting "if 0.1 gram" for "if a portion."—Am. J. Pharm., Phila., 1908, v. 80, pp. 210-211.

HYDRASTIS.

Lloyd, John Uri, discusses the cultivation of hydrastis and presents some data on the past and present supply of this drug.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 138-140.

Schneider, Albert, asserts that experiments have been made in California with the cultivation of *Hydrastis canadensis*, L. The plants so far are doing exceedingly well.—Pacific Pharmacist, 1908-9, v. 2, p. 212.

Henkel and Klugh (U. S. Dept. Agric., Bur. Plant Ind. Circ. 6, p. 19, fig. 7) describe the cultivation and handling of goldenseal. This is a revision of Bureau of Plant Industry Bulletin 51, part 6, and deals with the identification and geographical distribution of goldenseal, the conditions under which it grows, the collection and preparation of the root, the cultural requirements and the yield of roots. The question of supply and demand and the possibilities of goldenseal as a cultivated crop are also discussed. An analysis of roots grown for 6 successive seasons by the department showed a hydrastine content of 2.98 per cent, whereas the Pharmacopœia calls for only 2.50 per cent. Cultivation appears to influence the hydrastine content principally in the development of a normal high percentage of healthy well-nourished roots.

Rusby, H. H., says that a price of \$2 a pound makes even a 5 per cent adulteration of this root yield considerable pecuniary returns. It has no fibers, and almost anything which would be used to adulterate it has.—Drug. Circ., N. Y., 1908, v. 52, p. 370.

Gane and Webster assert that the quality of the goldenseal of commerce has steadily deteriorated during recent years. They point out that it is not always possible to obtain root that is up to the U. S. P. standard, 2.5 per cent of hydrastine. Thirteen samples examined by them varied from 2.13 to 3.33 of white alkaloid; 4 of the samples being below the 2.5 per cent required by the U. S. P.—*Drug Topics*, New York, 1908, v. 23, p. 325.

McKesson, Donald, points out that goldenseal is frequently adulterated with spring-dug root.—*Proc. N. W. D. A.*, 1908, p. 107.

Farwell, A. O., asserts that they have received a sample of water avens, *Geum rivale* Lin., that had been collected in considerable quantity and put on the market as goldenseal.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 35.

Patch, E. L., reports on 5 assays ranging from 2.28 to 3.28 per cent hydrastine.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 770.

Vanderkleed, Charles E., reports 8 assays of hydrastis; 2.800 per cent lowest; 4.030 per cent highest; 3.311 per cent average. All above standard.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 88.

Schneider, Albert, reports on 3 samples of powdered hydrastis; 2 pure and 1 adulterated having an admixture of 25 per cent of whole wheat flour.—*Pacific Pharmacist*, 1908-9, v. 2, p. 392.

Smith, Kline & French Co. (Analytical Report, 1908, p. 23) report that in the 3 samples of hydrastis they examined the hydrastine was 4, 3.95, and 3.04 per cent, respectively.

Clark, A. H., asserts that but 1 sample of hydrastis, of 15 examined, was below the standard, 2.50 per cent, of hydrastine.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 802.

Carr and Reynolds found *Hydrastis canadensis* to vary from 1.14 per cent to 3.17 per cent in hydrastine. A sample of hydrastis root, bearing the characters of the genuine root, was found to contain no hydrastine, but afforded 5.8 per cent of a substance allied to berberine, having a red instead of a yellow color.—*Pharm. J.*, Lond., 1908, v. 26, p. 543.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 117) discusses the valuation of hydrastis and reports on 5 samples which were found to contain from 2.43 to 2.71 per cent of hydrastine. Two samples of the root contained 4.62 and 6.02 per cent of ash, respectively.

Caesar & Loretz (*Geschäfts-Bericht*, 1908, p. li) report on 9 samples of hydrastis which varied from 3.59 to 4.22 per cent of hydrastine. They point out that the Ph. Helv. IV requirement of 2 per cent of hydrastine is entirely too low. They also discuss the method of assay devised by Fromme (*Ibid.*, p. 76) and comment on and commend the method of assay devised by Rusting and included in the Ph. Ndl. IV.

Puckner, W. A., reports experiments on the assay of fluid extract of hydrastis, presents a comparative study of several methods and

outlines a modified assay process.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 132-137.

Eldred and Pence present some notes on the estimation of hydrastine, discuss the method suggested by Puckner and compare it with the method of the U. S. P.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 836-838.

Umney and Bennett assert that in the U. S. P. assay process for hydrastis no difficulty is experienced in the separation. The aliquot-part method in the case of the fluid extract is unobjectionable, as the solvent is almost entirely water. The berberine is separated by precipitation with potassium iodide. The drug itself is assayed by quite a different process, being extracted by ether in presence of ammonia water. It seems desirable that the same method should be used in both cases.—Pharm. J., Lond., 1908, v. 27, p. 345.

Puckner, W. A., calls attention to the distinction between the fluid extract of hydrastis and the preparations variously sold as fluid golden seal and colorless golden seal. He examined samples of "Golden seal aqueous" and "Golden seal colorless" from 10 or more of the principal manufacturing firms, for their alkaloidal content. The results show little or no uniformity and moreover there was considerable variation from the strengths claimed on the labels of the several preparations.—J. Am. M. Ass., 1908, v. 51, pp. 52-54.

Smith, Kline & French Co. (Analytical Report, 1908, p. 21) report the assay of 3 samples of fluid extract of hydrastis: Hydrastine in 100 cubic centimeters, 2.16, 3.3, and 2.84 gms.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 63-64) reports on 9 samples of fluid extract of hydrastis which were found to contain from 1.98 to 2.32 per cent of hydrastine, and from 15.62 to 28.17 per cent of dry extract.

Dulière, Walter, discusses the preparation, properties, and assay of fluid extract of hydrastis.—Ann. de pharm., Louvain, 1908, v. 14, pp. 49-51.

Smith, Kline & French Co. (Analytical Report, 1908, p. 19) report that the 2 samples of extract of hydrastis assayed by them contained 10.3 and 10.8 per cent hydrastine, respectively. One sample of powdered hydrastis extract contained 11.95 per cent hydrastine.

Fitz-Randolph, R. B., reports that all 3 samples examined contained less hydrastine than is required by the Pharmacopœia. The figures obtained were 0.24, 0.28, and 0.35 gram per 100 c. c.—Rep. New Jersey Bd. Health, 1908, p. 226.

Beringer, George M., outlines a formula for fluid glycerate of hydrastis, with the procedure to be followed, and asserts that this preparation deposited a sediment soon after made, but the strained liquid has remained clear and has the color, taste, and odor of the drug. It mixes clear with sirup, cloudy with water or diluted alco-

hol and turbid with alcohol, with a copious precipitate. It assayed, by the official process for assay of fluid extract of hydrastis, 1.86 gm. hydrastine in 100 cc.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 996.

Williams, William Whitridge, finds that hydrastis given by vein causes a prompt fall of blood pressure which may be succeeded by a rise above normal after small doses, not after large doses; the fall being attributable to cardiac depression and the rise to cardiac stimulation. The alkaloids hydrastine and berberine cause similar changes in blood pressure. Hydrastis by the mouth causes no such changes as those described. Hydrastinine by the vein causes a slight fall usually, and later a sustained rise. The article is illustrated by numerous blood pressure tracings.—J. Am. M. Ass., 1908, v. 30, pp. 26-29.

Leming, W., asserts that hydrastis is one of our safest remedies in the treatment of chronic diseases.—Tr. Nat. Eclect. M. Ass., 1908, v. 36, p. 144.

Massinger, O. L., reports a remarkable case of hiccough effectually treated with hydrastis.—Eclectic Rev., 1908, v. 11, pp. 311-313.

HYOSCINÆ HYDROBROMIDUM.

The A. Ph. A. committee on U. S. P. questions which name, hyoscine or scopolamine, is to be retained as the official designation of the "identical" alkaloid having now a choice of aliases.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 527.

HYOSCYAMINÆ HYDROBROMIDUM.

Webster, W., presents some observations to determine the efficiency of hyoscyamine on poisoning by chloroform or other anæsthetic.—Biochem. J., Liverpool, 1908, v. 3, pp. 129-145.

HYOSCYAMINÆ SULPHAS.

The report of the therapeutic committee of the British Medical Association in suggesting the deletion of this substance asserts that it can not be obtained pure, and possesses no advantages over atropine sulphate.—Suppl. Brit. M. J., Lond., 1908, v. 2, p. 320. (See also Pharm. J., Lond., 1908, v. 27, p. 811.)

HYOSCYAMUS.

Schneider, Albert, asserts that *Hyoscyamus niger*, L., has escaped from cultivation in California and is now a comparatively common weed.—Pacific Pharmacist, 1908-9, v. 2, p. 212.

Dowzard, Edwin, reports an examination of *Hyoscyamus muticus*, the percentage of alkaloid contained in several parts of the drug, the melting points of aurichloride fractions and a comparison of these

melting points with those of the three principal mydriatic aurichlorides. From a comparative study of the figures obtained he concludes that the alkaloid of *Hyoscyamus muticus* consists of practically pure hyoscyamine.—Am. J. Pharm., Phila., 1908, v. 80, pp. 201–204.

Mansfield, William, contributes a paper on spurious hyoscyamus, in which he states that at the present time *Hyoscyamus muticus* (whole plant) is imported into the United States and substituted for *Hyoscyamus niger* and *Atropa belladonna*.—Drug. Circ., N. Y., 1908, v. 52, p. 255.

Rusby, H. H., notes that plant hairs or trichomes are a valuable means of identification of certain powdered drugs. This is the means of differentiating *Hyoscyamus muticus*, lately much used as an adulterant of the official *Hyoscyamus niger*, the former yielding ten or fifteen times as much alkaloid as the latter.—*Ibid.*, 1908, v. 52, p. 370.

Sterling, Charles M., describes and figures the histology of *Hyoscyamus muticus*.—Am. J. Pharm., Phila., 1908, v. 80, pp. 361–368.

Dohme and Engelhardt report that the shipments of henbane were not at all of the good quality obtained in former years. Leaves with 0.14 per cent of mydriatic alkaloids, which at one time could be obtained easily, were rather rare.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 816.

Heusler, P. I., reports that some shipments of henbane were rejected because of their low content of alkaloids.—Proc. Maryland Pharm. Ass., 1908, p. 35.

Blome, Walter H., reports on a sample of drug offered for sale under the name of hyoscyamus which assayed 0.6 per cent alkaloid. The sample was quite devoid of leaves and was, in all probability, *H. muticus*.—Proc. Michigan Pharm. Ass., 1908, p. 93.

Vanderkleed, Charles E., reports 5 assays of henbane leaf; 0.040 per cent lowest; 0.119 per cent highest; 0.090 per cent average; 4 above and 1 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Smith, Kline & French Co. (Analytical Report, 1908, p. 23) report that in the 5 samples of hyoscyamus they examined the amount of mydriatic alkaloids ranged from 0.05 to 0.80 per cent.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 75.

Rusby, H. H., reports two shipments of hyoscyamus containing stramonium. One, 28 per cent sand. Three were spurious. One lot of powdered contained *Hyoscyamus muticus*.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

Patch, E. L., reports 5 assays of hyoscyamus ranging from 0.063 to 0.102 per cent.—*Ibid.*, v. 56, p. 770.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 75–76) reports on 4 samples of hyoscyamus leaves, 1 of which was rejected because of insufficient extractive; the remaining 3 samples contained from 0.087

to 0.110 per cent of mydriatic alkaloids; the ash content varied from 12.74 to 23.82 per cent.

Kebler, L. F., reports on a sample of *Hyoscyamus niger*, which was stemmy in character, and contained traces of flax and stramonium, and excess of mineral matter.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Carr and Reynolds found *Hyoscyamus niger* leaves to vary from 0.06 per cent to 0.21 per cent total alkaloid.—Pharm. J., Lond., 1908, v. 80, p. 543.

Gane and Webster report on 2 samples of *Hyoscyamus muticus* offered in place of the official drug. They also point out that the alkaloid existing in this drug is practically pure hyoscyamine, the samples referred to assayed 1.32 and 1.1 per cent of alkaloid, respectively.—Drug Topics, New York, 1908, v. 23, p. 212.

Rusby, H. H., asserts that a spurious henbane sometimes contains from ten to fifteen times as much alkaloidal matter as the genuine and has a different action. These alkaloids are so poisonous that they are given in doses of only one two-hundred-and-fiftieth to one one-hundredth of a grain. Imagine the effect of giving a dose containing fifteen times as much as it should. When powdered the spurious can be recognized by its stellate hairs and by certain cells with wavy thick walls. Henbane may also contain stramonium leaves.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 138. (Bull. Bur. Chem. U. S. Dept. Agric., 1909, No 122.)

The Bureau of Chemistry points out that henbane leaves still show adulteration and that some importers have maintained that this commodity can not be purchased of the alkaloidal strength prescribed by the Pharmacopœia. The examinations made at the ports, however, show that the material offered since January 1, 1909, has been up to the standard in this respect; and, furthermore, the physical appearance of this drug has materially improved during the past few months, showing that the new crop has been collected with more care and discrimination.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 430.

Unney and Bennett believe that the standardization of henbane is not of great importance, as the activity of the drug does not depend alone on the mydriatic alkaloids it contains.—Year-Book of Pharmacy, Lond., 1908, p. 514.

Weigel, G., asserts that the U. S. P. requirement that hyoscyamus contain not less than 0.08 per cent mydriatic alkaloids is high. He believes that 0.05 to 0.06 would be more nearly in keeping with commercial conditions.—Pharm. Zentralh., 1908, v. 49, p. 959.

Weitbrecht, W., discusses the alkaloidal assay of extract of hyoscyamus according to the Ph. Helv. IV method and points out that

titration with hematoxylin as an indicator is impractical. He suggests the use of iodeosin.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 483–484.

Pearson, W. A., believes that for the assay of hyoscyamus, as well as extract of hyoscyamus, more menstruum would be advantageous.—Am. J. Pharm., Phila., 1908, v. 80, p. 76.

Umney and Bennett say that the U. S. P. assay process for fluid extract of hyoscyamus is the same as for belladonna; but, owing to the smaller quantity of alkaloid, 50 cc. of the fluid extract is ordered to be used, and, owing to the large quantity of extractive, complete separations are impossible. They find it is better to use sand and to extract with chloroform, as in the case of pilocarpus.—Pharm. J., Lond., 1908, v. 27, p. 345.

Lyons, A. B., outlines a process for the assay of fluid extract of hyoscyamus, the essential feature of which is greater dilution of the original solution.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 24.

Rupp, E., discusses the alkaloidal estimation of extract of hyoscyamus and of extract of belladonna, reports some experiments, and suggests that 0.5 per cent of alkaloids would be a fair requirement for extract of hyoscyamus.—Pharm. Ztg., Berl., 1908, v. 53, pp. 537–538.

An unsigned article reports that William J. Schieffelin found that fluid extract of hyoscyamus deteriorates 9 per cent within a year.—Am. Druggist, N. Y., 1908, v. 53, p. 264.

Smith, Kline & French Co. (Analytical Report, 1908, p. 21) report the assay of 2 samples of fluid extract of hyoscyamus; alkaloids in 100 cc., 0.07 and 0.065 gm.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 19) examined 8 samples of hyoscyamus extract (green) from various sources, which ranged in alkaloidal strength from 0.025 per cent to 0.05 per cent. A specimen of foreign make yielded 0.15 per cent.

Philipp Röder (Jahresbericht, Wien, 1908, p. 65) reports on 4 samples of extract of hyoscyamus, which contained from 0.19 to 0.35 per cent of alkaloid.

Smith, Kline & French Co. (Analytical Report, 1908, p. 19) report that the 2 samples of extract of hyoscyamus assayed by them contained 0.146 and 0.24 per cent of mydriatic alkaloids, respectively.

Webster, M. H., reports examining 1 sample of extract of hyoscyamus leaf, 15 years old, which was found to contain 0.16 per cent of alkaloids, while an examination made two years previously showed it contained 0.165 per cent of alkaloids.—Chem. & Drug., Lond., 1908, v. 73, p. 172.

Ribaut, H. (Bull. d. Sciences Pharmacol., 15, 495–503, Sept. Toulouse), reports the examination of a number of samples of extract of the Solanaceæ to determine their rate of deterioration, and points

out that a sample of extract of hyoscyamus leaves deteriorated 69 per cent in four years.—Chem. Zentralbl., Berl., 1908, v. 79, p. 1625.

Pollard, E. W., describes a tincture of fresh hyoscyamus which he prepared, and asserts that the aroma and color were incomparably superior to the official tincture, and that the preparation keeps much brighter and cleaner than the Ph. Brit. tincture, leaving practically no deposit on the sides of the dispensing bottle.—Chem. & Drug., Lond., 1908, v. 73, p. 388.

Hellwig, F., reviews the history of oil of hyoscyamus from its introduction in the sixteenth century to its inclusion in the first edition of the German Pharmacopœia published in 1872.—D. A. Apoth.-Ztg., N. Y., 1908-9, v. 29, pp. 44-45.

Beringer, George M., outlines a formula for fluid glycerate of hyoscyamus, with the procedure to be followed, and asserts that this product deposited considerable sediment but the decanted and strained liquid is clear and has the taste and odor of henbane, and this becomes more pronounced on dilution with water. It mixes clear with sirup, cloudy with water or diluted alcohol, and turbid with alcohol. Assayed by the official process for the assay of fluid extract of hyoscyamus, it gave 0.06658 gm. of alkaloids in 100 cc.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 996.

Longfield, F. J., in discussing the treatment of septicæmia, points out that hyoscyamus is indicated by delirious, generally excited nervous condition, low muttering, not sleeping, and face usually red.—Tr. Nat. Elect. M. Ass., 1908, v. 36, p. 292.

Szássy, I. (Gyógyszat, Budapest, 1908, xlviii, 486), reports a case of hyoscyamus poisoning combined with follicular tonsillitis.—Index Medicus, 1909, v. 7, p. 519.

INFUSA.

Frerichs, G., discusses the concentrated infusions offered in Germany by a manufacturing concern, and points out the impracticability of using preparations of this kind for official infusions.—Apoth. Ztg., Berl., 1908, v. 23, pp. 277-278, 283-285. (See also *Ibid.*, v. 23, pp. 565-567, 572-574.)

The same author presents some additional observations in the controversy on the use of concentrated infusions and decoctions. *Ibid.*, 1908, v. 23, pp. 840-850, 860-861. (See also pp. 889, 911, and 922.)

INFUSUM BRAYERÆ N. F.

Meyer, A., discusses the drug *cusso*, as usually found on the market, and outlines a new method for its quantitative analysis by means of the microscope.—Arch. d. Pharm., 1908, v. 246, pp. 523-540.

iodoformum.

Gane and Webster point out that the U. S. P. provides no assay process for determining the iodine content of iodoform, and call attention to the importance of establishing standard methods of assay. They review and discuss several of the methods of assay for iodoform that have been proposed from time to time.—*Drug Topics*, New York, 1908, v. 23, p. 292.

Echsner de Coninck and Chauvenet describe certain reactions of iodoform.—*Compt. rend. Soc. de biol. Par.*, 1908, v. 65, p. 503.

Woodle, J. M., discusses the possible use of odorless compounds or preparations of iodoform, particularly iodoformogen.—*Dental Cosmos*, 1908, v. 50, pp. 1190–1192.

Gössling, W., reviews the efforts that have been made to prepare and introduce substitutes for iodoform.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, p. 106.

Mossler, Gustav, discusses the chemical characteristics of iodoform and some of its substitutes.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 106.

An editorial (*N. York M. J.*, 1908, v. 88, p. 559) calls attention to a contribution by Salva Mercadé (*Arch. gén. de méd.*, July) on the occasional untoward effects of iodoform which he still regards as a very good antiseptic for certain purposes. In the treatment of poisoning, diuretics and bromides are to be given, also a 5 or 10 per cent solution of potassium or of sodium bicarbonate.

Wilcox, Sidney P., reports the successful treatment of 3 cases of tuberculous peritonitis by inunction of iodoform.—*Med. Rec.*, N. Y., 1908, v. 73, p. 735.

iodum.

Bachman, Gustav, reports that the samples of iodine examined ranged from 98.61 to 99.02 per cent.—*Proc. Minnesota Pharm. Ass.*, 1908, p. 50.

Smith, Kline & French Co. (*Analytical Report*, 1908, p. 23) report that the strength of the 10 samples of iodine examined by them ranged from 95 to 99.7 per cent.

Seidell, Atherton (*J. Biolog. Chem.*, 1907, p. 391), outlines a colorimetric test for the estimation of minute quantities of iodine.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 42.

Hartley and Campbell call attention to the very discordant recorded values for the solubility of iodine in water and the difficulties in making the determination. Special precautions were taken to exclude impurities, and by the process detailed the solubility found was 0.3395 grammes of iodine in one liter of water at 25°C.—*Pharm. J.*, Lond., 1908, v. 80, p. 357. (See also *J. Chem. Soc.*, Lond., 1908, v. 93, pp. 741–745.)

White, Edmund, discusses iodine, gives the tests for this substance, and calls attention to the trade varieties.—*Pharm. J.*, Lond., 1908, v. 26, p. 737.

Nitardy, F. W., discusses some official iodine solutions and presents suggestions for their improvement.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 1024–1025.

Aschoff, Karl, describes and illustrates a glass circulatory apparatus and container for the production of tincture of iodine.—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 399.

Dorsch suggests using an Erlenmeyer flask, with gauze covering, as the container for the iodine.—*Ibid.*, 1908, v. 53, p. 437.

Philipp Röder (*Jahresbericht*, Wien, 1908, pp. 142–145) discusses the testing of tincture of iodine and reports observations on its keeping qualities.

Lohmann, H. J., asserts that the U. S. P. VIII tincture of iodine is not permanent, and reports experiments which to him indicate that the addition of potassium iodide while it may serve to modify does not prevent deterioration of the iodine.—*Apothecary*, Boston, 1908, v. 5, p. 184. (See also *Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 50.)

The New York State Board of Pharmacy (Eighth Annual Report, 1908, pp. 14, 16) examined 885 samples of tincture of iodine, 105 of which were not up to standard. Four contained methyl alcohol but the standard per cent of iodine: 4 contained methyl alcohol and were deficient in iodine percentage, and 97 were only deficient in iodine content.

Barnard, H. E., reports that of a total of 330 samples of tincture of iodine, 65.7 per cent were found to contain less than the required amount of iodine. He also presents a study of the deterioration of tincture of iodine prepared according to the directions in the U. S. P., from which he concludes that tincture of iodine does not readily deteriorate but on the contrary, because of the evaporation of alcohol from the unprotected solution, may increase in total iodine strength.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 308–312. (See also *Rep. Indiana Bd. Health*, 1908, p. 335, and *Proc. Indiana Pharm. Ass.*, 1908, pp. 77–82.)

Wetterstroem, Theo. D., presents a brief and interesting paper on tincture of iodine prepared according to the U. S. P. VII and U. S. P. VIII formulas, and showing in a tabulated statement the changes taking place after varying periods.—*Proc. Ohio Pharm. Ass.*, 1908, pp. 52–53.

Jenkins, F. H., reports 92 samples of tincture of iodine as assaying from 3 to 16 per cent of iodine.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 770.

The Massachusetts State Board of Health found 10 samples which varied from 2.07 gms. to 3.85 gms. to 100 c. c.—*Ibid.*, v. 56, p. 770.

Smith, Kline & French Co. (Analytical Report, 1908, p. 38) report that 3 samples of tincture of iodine which they examined contained 6.99, 4.7, and 3.36 gms. of iodine, respectively, per 100 c. c. of tincture.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 79.

Fitz-Randolph, R. B., reports that 55 samples were examined and 37 classed as below standard. Six of these samples contained no potassium iodide, showing that the pharmacists who prepared them were still using the pharmacopœia of 1890, although the new one had been in force over three years.—Rep. New Jersey Bd. Health, 1908, p. 226.

Sayre, L. E., reports that of 53 samples of tincture of iodine examined, 37 were below standard.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 180, 249, 293, 294, 295, 296, 297.

Fischer, Richard, reports that of 171 samples of tincture of iodine analyzed, only 30, or 17 per cent of the total, complied with the requirements of the U. S. P. VIII; 8 samples were considerably above legal strength in iodine (in one instance containing 15.19 per cent); 7 samples were of legal strength in iodine but free from or deficient in potassium iodide; 43 samples were between six-sevenths and full strength in iodine; 64 between one-half and six-sevenths strength; while 19 fell below one-half strength, 1 sample containing only 0.72 gram of iodine per 100 c. c. Almost all of the samples that fell below six-sevenths strengths in iodine were found to be free from potassium iodide.—Rep. Dairy & Food Com., Wisconsin, 1909, p. 104. (See also Proc. Wisconsin Pharm. Ass., 1908, p. 42.)

Army, H. V., reports on 11 samples of tincture of iodine examined; three were of pharmacopœial strength, while the others varied from 5.21 per cent to 6.57 per cent.—Proc. Ohio Pharm. Ass., 1908, p. 89. (See also Midland Druggist, 1908, v. 10, p. 15.)

Dunlap, Renick W., reports on 39 samples of tincture of iodine examined, 25 adulterated and 14 pure.—Rep. Dairy & Food Com., Ohio, 1908, p. 52.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 229 samples of tincture of iodine examined, 165 genuine and 64 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Potter, Hubert F., reports on 23 samples of tincture of iodine; 8 were up to standard and the other 15 samples ranged from 31.4 to 88.7 per cent strength.—Rep. Dairy Com., Connecticut, 1908, p. 89.

Duncan, R. A., reports that of 17 samples of tincture of iodine examined 6 were below the standard.—Rep. Hawaii Bd. Health, 1908, p. 94.

Lythgoe, Hermann C., reports that of the 231 samples of tincture of iodine examined 35 were of low strength. Of the pure samples

only 12 were below 85 per cent of the pharmacopœial strength.—Rep. Massachusetts Bd. Health, 1908, p. 112.

McGill, A., reports on 75 samples of tincture of iodine examined: 60 proved genuine and 15 were adulterated; one containing no free iodine, 9 containing methyl alcohol, and 5 containing methyl alcohol and being too low in iodine.—Bull. Lab. Incl. Rev. Dept. Canada, No. 152, 1908, p. 11.

The Pharm. J., Lond. (1908, v. 27, p. 817), notes a prosecution for the sale of tincture of iodine which contained at least 7 per cent of methyl alcohol and a trace of acetone.

Bachman, Gustav, reports that the samples of compound solution of iodine examined ranged from 4.27 to 4.41 per cent.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Puckner and Clark compare one of the iodine nostrums to the official compound solution of iodine.—J. Am. M. Ass., 1908, v. 50, p. 1055.

Dannreuther, W. T. (J. Surg., Gynec. & Obst., N. Y., 1908, xxx, 328-341), discusses the surgical value of iodine.—Index Medicus, 1908, v. 6, p. 852.

Cutter, Charles K., points out that iodine appears to accelerate tissue changes and to influence metabolism in a peculiar way.—Eclectic Rev., 1908, v. 11, pp. 264-265.

Grossich, A. (Zentralb. f. Chir., Leipz., v. 35, No. 44), uses a 10 per cent tincture of iodine to sterilize the skin about the field of operation without previous scrubbing.—J. Am. M. Ass., 1908, v. 51, p. 2012.

Goebel, W. (Centralbl. f. Bakt., Part 1, v. 42, p. 86), recommends the use of a dilution (0.02 per cent) of Lugol's solution as an efficient, rapidly-acting disinfectant.—Hyg. Rundschau, 1908, v. 18, p. 46.

Additional references on the uses of iodine and of iodides will be found in the Index Medicus and the J. Am. M. Ass.

IPECACUANHA.

Kraemer, Henry, compares descriptions of ipecac as given in the Ph. Germ. IV, Ph. Ndl. IV, and the U. S. P. VIII, and points out that both the Ph. Germ. and the Ph. Ndl. present a much more satisfactory description of this drug than does the U. S. P.—Am. J. Pharm., Phila., 1908, v. 80, p. 84.

Holmes, E. M., contributes a paper on Johore ipecac.—Pharm. J., Lond., 1908, v. 80, p. 54.

Farwell, A. O., asserts that Rio and Cartagena ipecacs are often mixed and put upon the market as Rio. White ipecac, *Richardia scabra*, Lin., is often used as a substitute for it.—Merck's Rep. N. Y., 1908, v. 17, p. 34.

Rusby, H. H., asserts that ground olive pits have been used to the extent of hundreds of tons for adulterating such drugs as ipecac

and gentian, and points out the ease with which stone cells may be recognized.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 139. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122; see also Ann. Rep. U. S. Dept. Agric., 1908-9, p. 430, and Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.)

Gane, E. H., reports 7 lots of Rio ipecac which varied from 1.82 to 2.15 per cent of alkaloids; 8 lots of Carthagena, ranging from 2.1 to 2.8 per cent alkaloids, and 2 lots E. I. Johore, yielding 2.19 and 2.09 per cent alkaloids, respectively.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

Patch, E. L., found 9 lots ranging from 1.46 to 4.4 per cent alkaloids.—*Ibid.*, v. 56, p. 770.

Schneider, Albert, reports on 5 samples of ipecac; 4 pure and 1 adulterated with 40 per cent foreign vegetable tissue.—Pacific Pharmacist, 1908-9, v. 2, p. 392.

Carr and Reynolds found ipecacuanha root to vary from 1.76 per cent to 2.77 per cent of total alkaloid; 0.98 per cent to 1.83 per cent of emetine, and from 0.48 per cent to 1.29 per cent of cephaeline.—Pharm. J., Lond., 1908, v. 80, p. 543.

Gane and Webster assert that they have examined numerous parcels of Rio, Carthagena, and East Indian ipecac, and in but 1 case did the alkaloidal strength run below 2 per cent. Seven lots of Rio ipecac varied from 1.82 to 2.27 per cent. Eight lots of Carthagena ipecac varied from 2.1 to 2.7 per cent, and 2 lots of East Indian ipecac contained 2.09 and 2.19 per cent of alkaloids, respectively.—Drug Topics, New York, 1908, v. 23, p. 181.

Smith, Kline & French Co. (Analytical Report, 1908, p. 23) report that in the 6 samples of ipecac they examined the ipecac alkaloids ranged from 0.72 to 2.3 per cent.

Vanderkleed, Charles E., reports 10 assays of ipecac; 2.260 per cent lowest, 2.650 per cent highest, 2.471 per cent average. All above standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Clark, A. H., reports that all of the 9 samples of ipecac examined were above the present standard of 1.75 per cent, but 4 were below the old standard of 2 per cent.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 802.

Dohme and Engelhardt report on a sample of ipecac, assaying 0.938 per cent of total alkaloids only.—*Ibid.*, 1908, v. 56, p. 817.

Rusby, H. H., reports that birch bark, from which the oil had been distilled, had been found in ipecac. Many of the cells of the adulterant have a bright red spot.—Drug. Circ. N. Y., 1908, v. 52, p. 370.

Umney and Bennett assert that ipecac is fairly uniform and generally yields from 2 to 2.5 per cent of alkaloid soluble in chloroform.—Year-Book of Pharmacy, London, 1908, p. 514.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 20) report a sample of the Minas variety of ipecacuanha root yielding 1.9 per cent of alkaloid. Other samples of Rio ranged from 1.8 to 2 per cent.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 118-120) reports on 7 samples of ipecac root, which were found to contain from 2.76 to 4.33 per cent of ash and from 1.45 to 2.57 per cent of alkaloids. Also discusses the method of assay official in the Ph. Helv. IV and a method for the estimation of emetine, proposed by B. Peroni.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xlvi), in discussing the economic conditions of the ipecac market, suggest that the unusually low price for desirable quality of this drug is due to the great falling off in the demand from the United States. They also outline (p. exi) Panchaud's method for the assay of ipecac.

Umney and Bennett assert that the U. S. P. method for the assay of ipecacuanha is more readily carried out than the Ph. Brit. process, but gives considerably lower results by weighing, and still lower by titration. This is due to the fact that ether is used as a solvent, which, as shown by Bird, is unsuitable for ipecacuanha alkaloids. When chloroform is used the results by weighing are practically identical with those obtained by the Ph. Brit. process. The ether residue is paler in color and is more easily titrated, but chloroform undoubtedly takes out more alkaloid, even after three washings with ether.—Pharm. J., Lond., 1908, v. 27, p. 345.

Harvey, T. F., reports that for the combined assay of emetine and cephaeline, Paul and Cownley's method (Pharm. J., 1902, 2, 257) leaves little to be desired. Psychotrine is not extracted by ether, but being in such small amount might well be neglected. —Chem. & Drug., Lond., 1908, v. 72, p. 904.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 19) point out that the tedious nature of the official method of assay of ipecacuanha liquid extract produces variations in the alkaloidal strength of the product of different makers. They examined 4 samples ranging from 1.65 to 2.02 per cent total alkaloids, and think that this variation is due to the fact that in some cases the alkaloid is titrated, whereas in others it is taken to constancy at a low temperature and weighed.

Heikel, Gunnar, reports experiments to determine the availability of Mayer's reagent as a quantitative precipitant for the alkaloids of ipecacuanha.—Chem. Ztg., Cöthen, 1908, v. 32, p. 1186.

Webster, M. H., reports examining 1 sample of extract of ipecac, 15 years old, which was found to contain 11.06 per cent of alkaloids.—Chem. & Drug., Lond., 1908, v. 73, p. 172.

Philipp Röder (Jahresbericht, Wien, 1908, p. 65) reports on 2 samples of fluid extract of ipecac which contained 1.98 and 2.03 per cent of alkaloid, respectively.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22) report 2 samples of fluid extract of ipecac examined; total alkaloids in 100 cc., 1.47 and 1.56 gm.

Cook, E. Fullerton, asserts that the official method for making sirup of ipecac is a model method for sirups made from fluid extracts, and yields a preparation which is quite permanent.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 959.

"C. C." [C. Crinon?] remarks that in the preparation of the sirup of ipecac, Ph. Fr. V., the commission has retained the formula prescribing the employment of the extract, while that adopted by the Brussels Conference is prepared with the tincture and is less active. It is clear that the public and the physicians would be turned topsyturvy in their practices should the pharmacists find themselves unable to deliver to them the sirup which is so frequently used as an emetic for infants.—Répert. d. pharm. Par., 1908, v. 20, p. 539.

Mittelbach, Wm., thinks the tincture of ipecac and opium will conform more closely to Dover's Powder if made direct from the drugs.—Proc. Missouri Pharm. Ass., 1908, p. 98.

Beringer, George M., outlines a formula for fluid glycerate of ipecac, with the procedure to be followed, and asserts that the product is nearly clear, has deposited no sediment, and is fully active. It mixes clear with sirup or diluted alcohol and only a slight opalescence with water, but is turbid with alcohol. It assayed, by the official process for assay of fluid extract of ipecac, 1.4756 gm. alkaloids in 100 cc.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 996.

Harrison, R. T., reports a case in which death was supposed to have been due to an overdose of wine of ipecac.—Lancet, 1908, v. 175, p. 536.

Raymond, H. I. (Mil. Surg., Carlisle, Jan.) considers the treatment of amœbic dysentery with ipecacuanha rational, because the drug causes a prompt disappearance of the amœba from the intestinal tract. He details the technique of its use.—J. Am. M. Ass., 1908, v. 50, p. 646.

Murray, J. G., believes the use of ipecacuanha in the treatment of hepatitis following dysentery will often prevent suppuration.—*Ibid.*, 1908, v. 50, p. 1758.

JALAPA.

Power and Rogerson report a chemical examination of *Ipomœa purpurea*, Roth, known as the common morning glory. They conclude that this plant, like many other species of the same genus, contains resins which possess purgative properties, and is thus capa-

ble of being utilized medicinally.—Am. J. Pharm., Phila., 1908, v. 80, pp. 255-286.

Kebler, L. F., reports on a sample of jalap which was found less than half the strength of the U. S. P. product.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 780.

Dohme and Engelhardt report that a large number of samples of jalap assayed below the required standard (7 per cent). They believe that the cause of this is immature root and assert that England gets the choicest jalap, and it is only by rejecting the inferior quality that we will teach the Mexicans to send us what we want.—*Ibid.*, 1908, v. 56, p. 817.

Vanderkleed, Charles E., reports 3 assays of jalap: 4.140 per cent lowest, 12.170 per cent highest, 7.083 per cent average, 1 above and 2 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Clark, A. H., asserts that 3 out of 5 samples of jalap examined by him within the year were above the old standard of 8 per cent of extractive. One was as low as 4 and the other about 5.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 801.

Heusler, P. I., reports that it is difficult to obtain a drug with the required 7 per cent of resin.—Proc. Maryland Pharm. Ass., 1908, p. 35.

Carr and Reynolds found jalap (*Ipomoea purga*) to vary from 5.1 per cent to 15.8 per cent in resin.—Pharm. J., Lond., 1908, v. 80, p. 543.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 21) report that the resin content of 15 samples of jalap ranged from 7.4 to 11 per cent. One-third of the samples tested below 8 per cent.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. lxxvii) report being in position to supply jalap containing upward of 10 per cent of resin. They also point out (p. 122) that while the U. S. P. now requires but 7 per cent of resin the Ph. Germ. IV (1900) requires 9 per cent and the Ph. Japon. and Ph. Helv. each require 10 per cent of the same constituent.

Philipp Röder (Jahresbericht, Wien, 1908, p. 120) reports on 5 samples of jalap which were found to contain from 7.34 to 19.80 per cent of crude and from 4.03 to 8.50 of purified resin.

Gane and Webster report a variation of from 84.5 to 88 volume per cent of absolute alcohol in 5 different lots of fluid extract of jalap.—Drug Topics, New York, 1908, v. 23, p. 149.

Cowie, W. B., reports on the examination and valuation of jalap resin and points out that the U. S. P. tests, while greatly in advance of the Ph. Brit. tests, might be improved by being carried to a more definite conclusion. He outlines a scheme for the valuation of jalap that he has found to yield fairly concordant results.—Year-Book of

Pharmacy, 1908, pp. 448-457. (See also Pharm. J., Lond., 1908, v. 27, pp. 363-365; for discussion see p. 405.)

"T. D." criticises the article by Deér (Apoth. Ztg. 1907, v. 22, pp. 862-864) on the testing of resin of jalap.—Svensk. farm. Tidskr., 1908, v. 12, pp. 165-166.

Patch, E. L., reports that market products labeled jalapin range from those containing 28 per cent resin and 49 per cent alcohol insoluble matter to pure resin.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

KAOLINUM.

Hähnel, O., presents some observations on kaolin formation and concludes that repeated analyses have shown that disintegration and kaolin formation are distinct processes.—J. f. prakt. Chem., Leipz., 1908, v. 78, pp. 280-284.

Stremme, H. (Z. prakt. Geol., 16, 122-8), presents a discussion on the formation of kaolin.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, No. 11, p. 1545.

Roesler, H. (Z. pr. Geol., 16, No. 251, June), questions Ramann's theory that rock weathering by humic and carbonic acids, so-called bog-weathering (Moorverwitterung) is identical with kaolinization. He also regards as untenable the old theory that kaolin is a product of normal weathering, and supports the theory which attributes the formation of kaolin to pneumatolytic and pneumatohydatogenic processes.—*Ibid.*, v. 2, No. 19, p. 2665.

Heuisler, P. I., reports that one sample of kaolin examined contained iron in excess.—Proc. Maryland Pharm. Ass., 1908, p. 33.

Dohme and Engelhardt report on a shipment of kaolin which was strongly adulterated with calcium carbonate.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 817.

Smith, Kline & French Co. (Analytical Report, 1908, p. 23) report that they examined 7 samples of kaolin, all of which were satisfactory.

Richter, Geo., discusses kaolin as a remedy, both externally and internally.—Med. Rec. N. Y., 1908, v. 74, pp. 487-489.

KINO.

Woolsey, J. F., reports on 9 samples of kino. Eight had a solubility in alcohol ranging from 45.60 to 85.66, and solubility in water from 22.1 to 93.3 per cent, the other sample being practically completely soluble in both media. Four of these samples had a solubility in ether of from 0.6 to 1.2, and a percentage of ash of from 1.50 to 2.33 per cent. Three were rejected.—Proc. Pennsylvania Pharm. Ass., 1908, p. 85.

Hooper, David, states that three astringent plant juices have been received at the Indian Museum during the past year for examination and report, which were respectively derived from: *Jatropha curcas*, from South Salem; *Xylia dolabriformis*, from Burma; and *Parkia insignis* ("Myauk-ta-nyet"), also from Burma. When evaporated to dryness, these liquids left dark red-colored extracts responding to the tests for tannin. The three secretions must, therefore, be added to the class of astringent gums designated as kinos.—Pharm. J., Lond., 1908, v. 27, p. 161.

KRAMERIA.

Philipp Röder (Jahresbericht, Wien, 1908, p. 121) reports on 5 samples of ratanhia, which were found to contain from 2.07 to 4.30 per cent of ash, and from 8.28 to 22.24 per cent of aqueous extract.

Cook, E. Fullerton, asserts that sirup of krameria is pharmaceutically unsatisfactory, although it may be efficient medicinally.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 960.

Good, James M., does not know why sirup of krameria is in the Pharmacopœia. In an active business career of many years he has never had occasion to dispense it.—*Ibid.*, 1908, v. 56, p. 964.

Hommell, P. E., suggests that sirup of krameria be dropped from the Pharmacopœia because the physicians rarely prescribe it, as they prefer the fluid extract combined with other agents.—Proc. New Jersey Pharm. Ass., 1908, p. 100.

Beringer, George M., outlines a formula for fluid glycerate of krameria, with the procedure to be followed, and asserts that this has proved to be an entirely satisfactory preparation, and a sample 2 years old shows no deterioration. It mixes clear with sirup, diluted alcohol or alcohol, but makes with water a slightly cloudy mixture, having purplish-tinted opalescence.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 997. (See also Proc. New Jersey Pharm. Ass., 1908, p. 100.)

Duliere, W., reports observations on the appearance, specific gravity, and extract content of tincture of rhatany official in the Ph. Belg.—J. de pharm. d'Anvers, 1908, v. 64, pp. 122-123.

LACTUCARIUM.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xxxix) assert that there is a steady demand for lactucarium and that the repeated failure of the crop has brought with it unusually high prices.

Rusby, H. H., found one shipment of lactucarium moldy through and through.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

Cook, E. Fullerton, points out some of the shortcomings of the U. S. P. sirup of lactucarium and asserts that it is a little used and very unsatisfactory preparation.—*Ibid.*, 1908, v. 56, p. 960.

Good, James M., in discussing the comments by Cook on sirup of lactucarium, says that he recently examined his sirup of lactucarium on the shelf. It was made several years ago, as there is little active demand for lactucarium, and it had not changed in that time, except as one would expect a sirup to change with age without spoiling. He thinks that the present formula is exceedingly simple and he has had no trouble with it.—*Ibid.*, 1908, v. 56, p. 964.

Ladish, Erich H., recommends filtering sirup of lactucarium through a white filter; by this means he obtains a perfectly white mixture, which he has kept for as long as four months without change.—*Ibid.*, 1908, v. 56, p. 965.

LAPPA.

Farwell, A. O., asserts that the imported burdock root is of the first year's growth, but that collected in this country is of the second year's growth as often as of the first. The second year's root is very woody, hollow in the center, and of no value whatever. Large quantities of it are gathered annually.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 34.

Long, J., gives directions for the cultivation and marketing of burdock.—*Pharm. Era.*, N. Y., 1908, v. 39, p. 201.

Hood, S. C. (Vermont Sta. Rpt., 1907, pp. 371-386), reports experiments in drug-plant cultivation. The results show that drugs such as burdock and yellow dock can be profitably grown in Vermont providing the land is low priced.—*Exp. Sta. Rec.*, 1908-9, v. 20, p. 335.

Beringer, George M., outlines a formula for fluid glycerate of lappa, with the procedure to be followed, and asserts that this product deposited a copious, starchy, semigelatinous sediment, and although it had the odor and taste of the drug he does not consider it satisfactory. It mixed clear with water, sirup, or diluted alcohol, but turbid with alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 997.

LEPTANDRA.

Farwell, A. O., asserts that during the past year collectors of Culver's root have not been very particular to gather it free of stems. The bases of the stems, often 6 inches in length, were attached to the rhizomes in many large lots.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 34.

Carr and Reynolds found *Leptandra virginica* to vary from 6.9 per cent to 12.6 per cent of oleoresin.—*Pharm. J.*, Lond., 1908, v. 80, p. 543.

LIMONIS CORTEX.

The therapeutic committee of the British Medical Association suggests that lemon peel be deleted from the Ph. Brit., as the oil is alone

necessary.—*Pharm. J.*, Lond., 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

Barnard, H. E., reports on 1 sample of tincture of lemon examined, having a specific gravity at 20° C. of 0.8963; alcoholic volume, 57.7, and 0.50 per cent of lemon oil. This oil was mislabelled.—*Rep. Indiana B. Health*, 1908, p. 341.

Dixon, M. R., presents a comparison of extracts of lemon sold by grocers and those prepared by the U. S. P. formula.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 436-440.

Reports on the variable nature of extract of lemon and spirit of lemon will be found in *Rep. Dairy & Food Com.*, Wisconsin, 1909, p. 106; *Rep. New Jersey Bd. Health*, 1908, p. 222; *Proc. Michigan Pharm. Ass.*, 1908, p. 93; and *Rep. Dairy & Food Com.*, Ohio, 1909, pp. 52, 53.

LIMONIS SUCCUS.

Frisch, E., presents some observations on the physical characteristics and the composition of lemon juice and comments on the chemical determination of its value.—*Arch. d. Pharm.*, 1908, v. 246, pp. 472-484.

Devin, G. (*Veröffentl. Mil. Sanitätsw.*, 1908, No. 38, pp. 1-7; abs. in *Chem. Zentbl.*, 1908, I, No. 20, pp. 1848, 1849). reports an examination of lemon juice. The keeping quality of lemon juice was studied with commercial samples and material prepared by the author, his conclusions being that pasteurized lemon juice will keep well and that the addition of alcohol is not essential. Chemical preservatives should be excluded.—*Exp. Sta. Rec.*, 1908-9, v. 20, p. 660.

LINIMENTA.

Raubenheimer, Otto, in discussing the liniments of the U. S. P. VIII asserts that in general they are more satisfactory than were the corresponding preparations of the U. S. P. 1890.—*D.-A. Apoth.-Ztg.*, N. Y., 1908-9, v. 29, pp. 41-44, 60-61. (See also *Am. Druggist*, N. Y., 1908, v. 52, pp. 219-221.)

The same author discusses the liniments of the National Formulary, calls attention to their origin and composition, and concludes that they are generally considered to be satisfactory preparations.—*D.-A. Apoth.-Ztg.*, N. Y., 1908-9, v. 29, pp. 113-114, 127-128. (See also *Am. Druggist*, N. Y., 1908, v. 53, pp. 318-319, 346, and *Drug. Circ.*, N. Y., 1908, v. 52, p. 633.)

"C. C." [C. Crinon?] notes that in ammonia, lime, and chloroform liniments the *Ph. Fr. V* substitutes olive oil for oil of sweet almonds.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 537.

LINIMENTUM AMMONIÆ.

Raubenheimer, Otto, criticizes the official formula for ammonia liniment and suggests a modification, in which sesame oil is directed in place of the cottonseed oil and oleic acid and alcohol of the official preparation.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 1030-1033. (See also *D.-A. Apoth.-Ztg.*, N. Y., 1908-9, v. 29, pp. 43-44, 86, and *Am. Druggist*, N. Y., 1908, v. 53, p. 125.)

A correspondent suggests that in the coming edition of the Ph. Germ., ammonia liniment be directed to be made with a mixture of sesame and castor oils.—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 260.

LINIMENTUM CAMPHORÆ.

McDonnell, S. A., outlines a method for the preparation of camphorated oils, using powdered camphor and agitation.—*Pacific Pharmacist*, 1908-9, v. 2, p. 76.

LINIMENTUM SAPONATO-CAMPHORATUM, N. F.

The apothecaries of Magdeburg-Halberstadt suggest the following formula for the Ph. Germ. Lin. sap. camphorat: Acid stearic, 130; sodium carbonate, dried, 65; alcohol (90 per cent), 2,700; camphor, 66; oil of rosemary, 20; oil of thyme, 13; glycerin, 106; spirit of ammonia, 106.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 201.

Lorenzen, J., asserts that the limited use of this preparation would justify its deletion from the Ph. Germ.—*Ibid.*, 1908, v. 23, p. 295.

LINIMENTUM SAPONIS.

Raubenheimer, Otto, discusses the formula for soap liniment, makes sundry suggestions to modify the method of making the preparation, and recommends the use of Spanish olive oil soap in place of the Italian soap usually employed.—*D.-A. Apoth.-Ztg.*, N. Y., 1908-9, v. 29, p. 60.

Smith, Oliver, V. M., recommends the use of boiling distilled water for dissolving the soap; when sufficiently cool the remaining ingredients are added.—*Bull. Pharm.*, Detroit, 1908, v. 22, p. 118.

Raeuber, E. G., suggests a method for the preparation of a permanent and clear preparation, one which, he claims, will not gelatinize or separate out.—*Proc. Wisconsin Pharm. Ass.*, 1908, p. 30.

Bradford, H. C., calls attention to some of the criticisms that have been made of the official formula for soap liniment and presents a formula for making the preparation directly from olive oil.—*Western Druggist*, Chicago, 1908, v. 30, p. 345.

Posey, H. G., recommends a formula for soap liniment in which the soap is produced directly from olive oil.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1037.

The Druggists Circular (N. Y., 1908, v. 52, p. 317), replying to a query, states that much, if not most, of the trouble experienced by those who try to make pharmacopœial preparations and fail, is that they either do not use pharmacopœial ingredients or do not follow pharmacopœial directions. In this particular case much of the soap found on the market is not really of U. S. P. standard, while "water" does not mean any water, but U. S. P. water.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, pp. 14, 15) examined 303 samples of soap liniment, 4 of which were below standard. Also found 1 sample of soap liniment which contained methyl alcohol.

LINIMENTUM SAPONIS MOLLIS.

Raubenheimer, Otto, calls attention to the fact that liniment of soft soap of the U. S. P. is not identical with Hebra's spirit of soap, as the latter represents but 33 per cent of soap while the U. S. P. preparation is a 65 per cent solution of soft soap in alcohol.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 60.

Stark, W. H., suggests that in the making of liniment of soft soap the latter be heated in a porcelain dish until it has liquefied; then incorporate the alcohol, with stirring, and when cold add the oil of lavender flowers.—Bull. Pharm., Detroit, 1908, v. 22, p. 30.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 389 samples of liniment of soft soap, 9 being below standard.

LINUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 23) report that 1 of the 3 samples of linum examined by them was of very poor quality, containing a rancid oil.

Schneider, Albert, reports on 3 samples of flaxseed; 2 pure and 1 adulterated with 50 per cent wheat flour and 20 per cent unknown tissue.—Pacific Pharmacist, 1908-9, v. 2, p. 392.

Blome, Walter H., reports on 4 samples of linseed meal, assaying from 33.2 to 35 per cent of oil. The meal had therefore not had any of its oil removed.—Proc. Michigan Pharm. Ass., 1908, p. 93.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. LVIII) assert that the use of linseed as a mechanically acting remedy in the treatment of chronic constipation is rapidly increasing.

LIQUORES.

Diehl, C. Lewis, presents a compilation of comments on the solutions contained in the N. F.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 143.

LIQUOR ALUMINI ACETATIS N. F.

Diekman, George C., discusses the chemistry of the solution of aluminum acetate.—*Drug. Circ.*, N. Y., 1908, v. 52, p. 224.

Chumaceiro, H. M., recommends the use of a 50 per cent aqueous solution of aluminium acetotartaricum, with 5 per cent glacial acetic acid, which he claims will produce a preparation that will keep indefinitely.—*Ibid.*, 1908, v. 52, p. 323.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 27) asserts that the solution of aluminum acetate official in the Ph. Austr. VIII is reasonably stable; particularly if it contains an excess of basic aluminum acetate, or does not comply fully with the dilute alcohol test.

van Rijn, W., outlines a method for making solution of basic aluminum acetate of the Ph. Ndl.—*Pharm. Weekblad.*, 1908, v. 45, pp. 535-537.

Candussio, Giovanni, reports observations on the precautions necessary in the making of Burow's solution.—*Boll. chim. farm.*, Milan, 1908, v. 47, pp. 533-534. (See also *Pharm. Post*, Wien, 1908, v. 41, pp. 497-498.

Kühl, H., reports examining three samples of solution of aluminum acetate which had been frozen in transport and which were found to contain from 1.9 to 4.7 per cent less aluminum acetate in solution than is required by the Ph. Germ. IV.—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 339.

(For additional notes see *Ibid.*, 1908, v. 53, p. 582.)

LIQUOR ANTISEPTICUS.

Hommell, P. E., has employed liquor antisepticus therapeutically as an antiseptic with good results, and would recommend its retention in the U. S. P.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 106.

An editorial commenting on the preparations in the U. S. P. of interest to dentists asserts that "liquor antisepticus is an excellent mouth wash."—*Dental Digest*, 1908, v. 14, p. 1465.

LIQUOR ANTISEPTICUS ALKALINUS N. F.

Wilbert, M. I., asserts that if the quantities of sodium borate and sodium benzoate directed in the formula of the N. F. for alkaline antiseptic solution are reversed the preparation is much improved.—*Am. J. Pharm.*, 1908, v. 80, p. 241.

Feil, Joseph, says that the cudbear of commerce has a variable tinctorial power. Some method of obtaining a uniform color is desired.—*Drug. Circ.*, N. Y., 1908, v. 52, p. 113.

Towle, Geo. M., recommends coloring alkaline antiseptic N. F. with powdered cudbear, macerating a definite quantity for a uniform

length of time. He suggests 10 gms. of cudbear to 1,000 cc. solution, macerating for three days.—Bull. Pharm., Detroit, 1908, v. 22, p. 207. (See also p. 253.)

Whitney, D. V., reports that difficulty is encountered in obtaining this solution clear and transparent; it becomes cloudy upon standing; if, however, magnesium carbonate be used in place of purified talc as a clarifying agent, a more brilliant and permanent product results.—Proc. Missouri Pharm. Ass., 1908, p. 103.

Heizer, J. W., offers an improved formula for liquor antisepticus alkalinus.—Drug. Circ., N. Y., 1908, v. 52, p. 574. (See also Wilbert M. I., *Ibid.*, 1908, v. 52, p. 209, and "C. H.," *Ibid.*, 1908, v. 52, p. 619.)

The formula for compound glycerin of thymol, B. P. C., an alkaline antiseptic preparation somewhat similar in character to the alkaline antiseptic of the National Formulary is reprinted.—Am. J. Pharm., Phila., 1908, v. 80, p. 176.

LIQUOR AURI ET ARSENI BROMIDI N. F.

Clark, A. H., refers to the difficulty experienced by some pharmacists in making solution of bromide of gold and arsenic. Careful attention to the directions regarding the treatment of the arsenic trioxide with bromine water will obviate the difficulty.—Drug. Circ. N. Y., 1908, v. 52, p. 336.

Raubenheimer, Otto, suggests that the bromine solution directed to be used in the making of solution of bromide of gold and arsenic be referred to as "Bromine test solution, U. S. P."—Bull. Am. Pharm. Ass., 1908, v. 3, p. 241.

LIQUOR CALCIS.

Baird, J. W., calls attention to the fact that lime water is one of the important products of the U. S. P., although it is considered by many druggists as unimportant, and is often carelessly made. As much care should be taken in the preparation of lime water as in any other preparation.—Proc. Massachusetts Pharm. Ass., 1908, p. 76. (See also Apothecary, Boston, 1908, v. 5, p. 326.)

Moody and Leyson discuss the solubility of lime in water, outline their method of procedure, and present a table showing the number of parts of water required to dissolve 1 gm. of lime at different temperatures.—J. Chem. Soc., Lond., 1908, v. 93, pp. 1767-1772.

Cliffe, W. L., outlines a method of preparing lime water that insures conformity with the U. S. P. requirements.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1033.

Barnard, H. E., reports a study of the deterioration of lime water and concludes that lime water properly prepared and kept in a closely stoppered bottle, containing some undissolved lime, will de-

teriorate very slowly and will preserve its strength at least six months after its preparation. He believes that the uniformly low grade of this product as dispensed is due to carelessness in storage.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 323–325.

Sturmer, J. W., in a paper on “taking care of a drug stock,” says that, if lime water is properly kept, it is as permanent as paraffin.—Proc. Indiana Pharm. Ass., 1908, p. 92.

Fitz-Randolph, R. B., reports that of 42 samples examined 21 were found to be below the legal standard. The poorest sample was deficient in calcium hydroxide to the extent of 97 per cent. There is no excuse for a preparation of this sort. Lime water, made according to the requirements of the Pharmacopœia and properly stored, will not deteriorate more than 10 per cent in six months, and the figure fixed by the Pharmacopœia is sufficiently low to allow for such deterioration. Improper storage and the manufacture of this preparation from inferior materials, or from prepared tablets, is responsible for most of the defective preparations.—Rep. New Jersey Bd. Health, 1908, p. 225.

Fisher, Richard, reports on 106 samples of lime water analyzed, of which 49, or 46 per cent of the total, came up to the requirements of the Pharmacopœia. Twenty were between three-fourths and full strength; 8 between one-half and three-fourths strength; 15 between one-fourth and one-half strength; while 14, or 1 out of about 8 samples, fell below one-fourth strength, 6 being practically inert.—Rep. Dairy & Food Com., Wisconsin, 1909, p. 102. (See also Proc. Wisconsin Pharm. Ass., 1908, p. 41.)

Bachman, Gustav, reports that the samples of lime water examined ranged from 0.103 to 0.144 per cent.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Dunlap, Renick W., reports on 2 samples of lime water examined, 1 pure and 1 adulterated.—Rep. Dairy & Food Com., Ohio, 1909, p. 52.

Lythgoe, Hermann C., reports that of the 4 samples of lime water examined 2 were adulterated. One sample contained scarcely any lime, while the other sample was but little more than half strength.—Rep. Massachusetts Bd. Health, 1908, p. 605.

Barnard, H. E., reports that of 236 samples of lime water analyzed but 52.5 per cent contained the required amount of calcium hydroxide.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 309. (See also Rep. Indiana Bd. Health, 1908, p. 321.)

Sayre, L. E., reports 10 samples of lime water examined, 4 of which were illegal.—Bull. Kansas Bd. Health, 1908, v. 4, p. 63, ff.

Harris, A. E., reports that 2 of the 12 samples of lime water analyzed were not in accordance with the standards of the Ph. Brit.,

showing a percentage of adulteration of 16.7, as compared with 13.3 per cent of the previous year.—Pharm. J., Lond., 1908, v. 27, p. 69.

LIQUOR CALCIS SULPHURATÆ N. F.

Raubenheimer, Otto, points out that the name "Vleminck's" is properly spelled "Vleminckx's."—Bull. Am. Pharm. Ass., 1908, v. 3, p. 241.

LIQUOR CHLORI COMPOSITUS.

Niece, Frederic E., asserts that chlorine water undergoes rapid changes on account of the contact with oxygen from the air, light, and heat.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1052.

LIQUOR CRESOLIS COMPOSITUS.

Beringer, George M., believes that the compound solution of cresol, U. S. P., is an example of a good formula spoiled by faulty directions for manipulation. He points out that if the official method for making soft soap be carried out in the preparation of this solution there will be no trouble in obtaining a satisfactory product.—Am. J. Pharm., Phila., 1908, v. 80, p. 435. (See also Proc. New Jersey Pharm. Ass., 1908, p. 93.)

Clark, A. H., suggests using a portion of an old preparation in the making of the official compound solution of cresol, so as to bring about a more rapid saponification of the mixture.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 27.

Eisele, George, finds compound solution of cresol difficult to make right, so as to be perfectly miscible with any proportion of water. All that is required to secure the desired result is to allow the saponification of the linseed oil to be complete, and this requires from 3 to 4 days; then the cresol may be added and the two thoroughly mixed and a perfect preparation will be the result.—Proc. Illinois Pharm. Ass., 1908, p. 107.

Blair, Henry C., asserts that a mixture of so-called fig-soap and cresol makes a preparation quite as good as that yielded by the complicated formula in the Pharmacopœia for liquor cresolis compositus.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1023.

Nitardy, Ferdinand, reviews some of the criticisms that have been made on compound solution of cresol, U. S. P., and outlines a method of procedure based on the present formula, which he thinks is quite satisfactory.—Am. J. Pharm., Phila., 1908, v. 80, pp. 212-216. (See also *Ibid.*, p. 27.)

Klenze, W. F., reports some experiments with the U. S. P. formula for compound solution of cresol and recommends a modification in the procedure, so as to provide for the preliminary saponification of

the oil, by means of heat, and the subsequent addition of the cresol.—Apothecary, Boston, 1908, v. 5, pp. 23–24.

Stanislaus, I. V. S., thinks the U. S. P. formula and directions, for making compound solution of cresol, cumbersome and time consuming. He recommends the use of a formula containing soft soap, water, and cresol.—*Ibid.*, 1908, v. 5, p. 428. (See also Proc. Pennsylvania Pharm. Ass., 1909, p. 162.)

Feil, Joseph, says it is claimed that this preparation does not produce a clear mixture with water, varies too much in color, and may be too alkaline.—Drug. Circ. N. Y., 1908, v. 52, p. 113.

Nitardy, F. W., presents an improved formula.—*Ibid.*, 1908, v. 52, p. 160.

Kobbe, F., discusses the preparation of cresol soap combinations and outlines a method for making the Ph. Germ. IV cresol soap solution.—Apoth. Ztg., Berl., 1908, v. 23, p. 136.

An editorial reviews several recent communications on cresol and liquor cresoli saponatus, calls attention to the recommendation that has been made to cheapen the preparation by using a soda soap, and reprints several proposed modifications of the official directions.—Pharm. Ztg., Berl., 1908, v. 53, pp. 173–174.

An editorial calls attention to some of the recent developments in connection with the official directions for cresol soap emulsions and summarizes the conclusions of Schneider (Arch. f. Hygiene) on the comparative value of the several cresols.—*Ibid.*, 1908, v. 53, p. 629.

Franklin, J. H., points out that the B. P. C. includes 2 formulas for mixtures of cresol with soap which are given under liquor cresolis compositus and under solutio cresolis saponatus.—Pharm. J., Lond., 1908, v. 26, p. 674.

White, Peter M., suggests sapocresol, crepol, or crysol as an easily remembered name for an official cresol soap solution.—*Ibid.*, 1908, v. 26, p. 22.

Walker, Percy H., discusses the testing of phenol soap mixtures and outlines a scheme for their analysis, which is described as a modification of that given by Allen.—Bull. Bur. Chem., U. S. Dept. Agric., No. 109, 1908, pp. 42–43.

Bulletin No. 107 of the Bureau of Animal Industry presents analyses of coal-tar creosote and cresylic acid sheep dips, by Robert M. Chapin. 35 pp.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 619.

Deiter, J., discusses the valuation of cresol soap solutions and some of the methods that have been proposed for determining the value of this preparation. He points out that the specific gravity and optical behavior of the preparation are valuable indications and should be applied as preliminary tests.—Apoth. Ztg., Berl., 1908, v. 23, pp. 310–311, 326.

Seel, Eugen, in an article on lysol and phenol tablets, discusses the applicability of Raschig's method for the estimation of meta-cresol in cresol tablets.—*Ber. d. pharm. Gesellsch., Berl.*, 1908, v. 18, pp. 421-430.

Needham, R. H., contributes a paper on the compound solutions of cresol, and outlines the Rideal-Walker drop method of testing the germicidal value.—*Proc. Texas Pharm. Ass.*, 1908, p. 47.

Nitardy, F. W., reviews some of the comments that have been made on the U. S. P. formula for compound solution of cresol and reports a number of experiments made to determine the possible escharotic effects of different preparations.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, pp. 139-141.

Schmatolla, Otto, summarizes a controversy on cresol soap solutions and enumerates a number of reasons why the official solution of cresol is to be preferred to one of the proprietary preparations.—*Pharm. Ztg., Berl.*, 1908, v. 53, p. 921.

Rapp reports a comparative study of the disinfecting value of solutions of cresol.—*Apoth. Ztg., Berl.*, 1908, v. 23, pp. 737-739.

Sage, C. Edward, presents a brief report of the bactericidal value of *Liquor Cresolis Compositus*, B. P. C., giving tabulated statements of his results with culture of *B. typhosus*, at 30° C. He concludes that this preparation varies in efficiency, and, according to the bactericidal value of the cresylic acid used, the fluid may be worth from 1.25 to 3.75 times the value of pure carbolic acid.—*Pharm. J., Lond.*, 1908, v. 80, p. 730.

Friedländer, Richard, reviews the history of lysol and similar preparations and discusses their use and toxic action. Also presents a comprehensive literature.—*Therap. Monatsh., Berl.*, 1908, v. 22, pp. 536-545, 593-602. (See also *Pharm. Ztg., Berl.*, 1908, v. 53, p. 817.)

Thomann, J., reviews several of the recent contributions on the disinfecting value of cresols and mixtures of cresols and soap and points out that the reported results would indicate that commercial cresol, as defined in the *Ph. Helv. IV*, is really a more reliable disinfectant than the chemically pure tricresol mixtures.—*Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich*, 1908, v. 46, pp. 695-696.

Kelhofer, W., presents a study of the cresol preparations used or recommended for combating diseases of plants.—*Ibid.*, 1908, v. 46, pp. 18-21.

McMillan, Lewis, reports a case of lysol poisoning, with recovery, in a young man who swallowed about 3 ounces.—*Brit. M. J., Lond.*, 1908, v. 2, p. 1495.

Müller, J. (*München. med. Wochnschr.*, 1909, lvi, 47), discusses lysol poisoning.—*Index Medicus*, 1909, v. 7, p. 275.

LIQUOR FERRI ALBUMINATI N. F.

Harrison, William H., does not consider the N. F. formula for solution of albuminate of iron satisfactory and recommends a modification based on the formula suggested by him for solution of peptonate of iron.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 138. (See also formula by Squibb. *Ibid.*, p. 281.)

Dunning, H. A. B., discusses the protein compounds of iron and presents a formula for iron albumen compounds.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 846.

Harrison, W. H., gives a formula for solution of iron albuminate and outlines the method of procedure.—Am. J. Pharm., Phila., 1908, v. 80, pp. 169-170.

Linckersdorff, Paul, discusses the several formulas and methods of procedure that have been recommended for the making of solution of albuminate of iron and outlines a formula in which he uses 1,000 cc. of fat-free (skim) milk in place of the solution of albumen in water.—Pharm. Ztg., Berl., 1908, v. 53, p. 350.

Börner presents a formula for a solution of albuminate of iron in which he uses sodium phosphate to dissolve the freshly precipitated iron albuminate.—Apoth. Ztg., Berl., 1908, v. 23, p. 795.

The author discusses the influence of various substances on the solubility of iron albuminate.—*Ibid.*, 1908, v. 23, p. 842.

Beysen, K., discusses the proposed modification of the Ph. Germ. formula for solution of iron albuminate.—Pharm. Ztg., Berl., 1908, v. 53, p. 1023.

Schultz, W. (D. Med. Wochenschr., 1908, No. 7), reports experiments on the physiological action of albuminate of iron and concludes that this preparation offers no appreciable advantages over inorganic preparations of iron.—*Ibid.*, 1908, v. 53, p. 251.

LIQUOR FERRI ET AMMONII ACETATIS.

Graffort, L. J., presents a formula for a modified Basham's mixture.—Bull. Pharm., Detroit, 1908, v. 22, p. 37.

Cobb, William R., for solution of iron and ammonium acetate, recommends keeping all of the ingredients except the tincture of iron ready mixed and adding the latter as required.—*Ibid.*, 1908, v. 22, p. 72.

Posey, H. G., suggests omitting the tincture of ferric chloride and adding when dispensing.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1037.

LIQUOR FERRI CHLORIDI.

Bachman, Gustav, reports that the samples of solution of ferric chloride examined ranged from 7.29 to 9.45 per cent.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Smith, Kline & French Co. (Analytical Report, 1908, p. 24) report examining 1 sample of solution of ferric chloride; iron content, 13.5 per cent.

Barnard, H. E., reports on 2 samples of solution of ferric chloride, having 9.85 and 11.2 per cent of iron, respectively.—Rep. Indiana Bd. Health, 1908, p. 341.

Bachman, Gustav, reports that the samples of tincture of ferric chloride examined ranged from 3.95 to 4.49 per cent of metallic iron.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Barnard, H. E., reports on 28 samples of tincture of iron, 19 of which were illegal.—Rep. Indiana Bd. Health, 1908, p. 334.

Brown, George S., reports upon 12 samples, 1 of which showed 5.37 per cent metallic iron, the others varying between 2.75 and 4.06. He remarks that one of the common adulterants of tincture of iron is water, which is used in order to substitute a portion of the alcohol used as a menstruum.—Proc. Louisiana Pharm. Ass., 1908, pp. 63-64.

Barnard, H. E., reports that of 251 samples of tincture of ferric chloride analyzed but 29.9 contained 13.28 of anhydrous salt, corresponding to 4.58 per cent of metallic iron.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 309.

LIQUOR FERRI OXYCHLORIDI N. F.

Squibb, E. H., presents a formula for solution of ferric oxychloride.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 281.

Sayre, L. E., reports that the 2 samples of dialyzed iron examined were deteriorated.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 297, 298.

LIQUOR FERRI PEPTONATI CUM MANGANO N. F.

An editorial discusses the proteid iron preparations of the National Formulary and points out some of their shortcomings.—Critic and Guide, N. Y., 1908, v. 11, pp. 194-201.

Whitney, D. V., thinks this one of the most important, and at the same time unsatisfactory, products of the N. F. When made according to directions, from the ordinary products on the market, it produces a dark reddish-brown murky solution, having a very disagreeable odor, and gradually deposits a precipitate. The color may be obtained by using scale preparations of iron peptonate and manganese citrate. The former contained the equivalent of 50 per cent ferric oxide; the commercial product had only about 5 per cent.—Proc. Missouri Pharm. Ass., 1908, p. 103.

Harrison, Wm. H., discusses the proteid iron preparations of the National Formulary and presents modified formulas for solution of peptonate of iron and solution of peptonate of iron with manganese.—Bull. Am. Pharm. Ass., 1908, v. 3, pp. 136-138. (See also Drug.

Circ., N. Y., 1908, v. 52, p. 210, and Am. J. Pharm., Phila., 1908, v. 80, pp. 162-170.)

McElhenie, T. D., discusses the formula for solution of peptonate of iron recommended by Harrison and suggests that a small quantity of phenol be added to prevent the developing of the characteristic unpleasant odor of the peptonate.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 343.

Raubenheimer, Otto, suggests the use of chloroform water in place of phenol.—*Ibid.*, 1908, v. 3, p. 343.

Dunning, H. A. B., discusses the protein compounds of iron and presents a formula for iron peptone compounds. Also refers to his previous paper on the same subject published in 1905.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 847-848.

Schaper, H., presents an improved formula for solution of peptonate of iron with manganese.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 155.

Feil, Joseph, notes that the principal difficulty is said to be inability to procure a good iron peptonate and a soluble manganese citrate.—Drug. Circ., N. Y., 1908, v. 52, p. 113.

Klenze, W. F., asserts that it is difficult to secure a good iron albuminate in ordinary trade and recommends that the preparation be prepared from fresh egg albumin, peptonized, and precipitated with iron.—Apothecary, Boston, 1908, v. 5, p. 24.

Squibb, E. H., presents formulas for solutions of peptonate of iron and peptonate of iron with manganese.—Bull. Am. Pharm. Ass., 1908, v. 3, pp. 281-282.

Stanislaus, I. V. Stanley, presents a formula for making solution of iron and manganese peptonate.—Proc. Pennsylvania Pharm. Ass., 1908, p. 161.

LIQUOR FERRI TERSULPHATIS.

Army, H. V., reports examining 5 samples of solution of ferric sulphate all up to the requirements of the U. S. P. VIII.—Midland Druggist, 1908, v. 10, p. 15.

Bachman, Gustav, reports that the samples of solution of tersulphate of iron examined ranged from 9.28 to 9.45 per cent.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

LIQUOR FORMALDEHYDI.

Dulière, Walter, discusses the nature and properties of commercial solutions of formaldehyde, and points out that these solutions are readily decomposed and that errors in assay should be guarded against.—J. de pharm. d'Anvers, 1908, v. 64, pp. 13-17.

Reychler, A., discusses the solubility of trioxymethylene in alkaline alcohol and in phenols.—Bull. Soc. chim., Belg., 1908, v. 22, pp. 17-20.

Woolsey, J. F., reports that formaldehyde is easily obtained of required strength, but often badly discolored and impure.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Smith, Kline & French Co. (Analytical Report, 1908, p. 24) report that they examined 46 samples of solution of formaldehyde. All were of U. S. P. quality except 6, which contained fixed impurities and were of inferior physical appearance.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 75.

Sayre, L. E., reports that the sample of formaldehyde examined contained a black flocculent sediment and was deficient in strength.—Bull. Kansas Bd. Health, 1908, v. 4, p. 155.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 54 samples of liquor formaldehydi examined, 53 genuine and 1 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Henisler, P. I., reports that two shipments of formaldehyde were rejected as not coming up to the required 27 per cent HCOH .—Proc. Maryland Pharm. Ass., 1908, p. 34.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 16) report finding from 36 to 39 per cent of formaldehyde in commercial samples.

Rupp, E., commends the assay method for solution of formaldehyde contained in the Ph. Helv. IV.—Apoth. Ztg., Berl., 1908, v. 23, p. 229.

McDonnell, C. C., reports experiments on the determination of formaldehyde by the hydrogen peroxide method and by the cyanide method described in Bulletin 107 of the Bureau of Chemistry, United States Department of Agriculture, and suggests that more specific directions should be given in connection with the latter method.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., pp. 109–110. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

v. Fillinger, Franz, discusses the applicability and the limitations of Hehner's test for formaldehyde.—Ztschr. f. Unters. Nabr. u. Genussm., 1908, v. 16, pp. 226–231.

Jones, E. W. T., outlines a colorimetric method for the determination of formalin in milk by using an acid solution of iron chloride as reagent.—Chem. News, Lond., 1908, v. 98, p. 247.

Todtenhaupt, F., reports observations on a reaction that takes place between hydrogen sulphide and solution of formaldehyde and suggests that the reaction may be of value as a test for either constituent.—Chem. Ztg., Cöthen, 1908, v. 32, p. 1045.

Sörensen and Jessen-Hansen (Chem. C. B. 1908, I, No. 12) outline a method for the titrimetric estimation of formaldehyde in highly colored liquids. They precipitate the coloring matter in hydrochloric acid solution by means of silver nitrate.—Pharm. Ztg., Berl., 1908, v. 53, p. 371.

Robin, Lucien, discusses the estimation of formaldehyde and its polymers.—*Ann. de chim. analyt., Par.*, 1908, v. 13, pp. 53-56.

Wiley, H. W., presents the general results of the investigations showing the effect of formaldehyde upon digestion and health. He outlines the method of conducting the experiments, gives the medical and clinical data observed, and concludes that the admixture of formaldehyde with food is injurious to health, even in the case of healthy young men.—*Circ. No. 42, U. S. Dept. Agric.*, 1908, p. 16. (See also *Proc. Am. Philosoph. Soc.*, 1908, v. 47, p. 319.)

Dorset, M. (*U. S. Dept. Agr., Farmer's Bull.*, 345, p. 12), reports on some common disinfectants. Directions are given for the production of gas from formalin, from paraform, and from wood alcohol. The advantages and disadvantages in the use of formaldehyde, carbolic acid, and cresol are summarized for ready reference. Other disinfectants considered are compound solution of cresol, chloride of lime, and bichloride of mercury.—*Exp. Sta., Rec.*, 1908-9, v. 20, p. 884.

Bischoff, H. (*Gesundheitsingenieur*, 1908, Bd. 31, No. 12), discusses the efficiency of formaldehyde disinfection and concludes that the attempts with vacuum disinfection have not been successful. The cause for the irregular results that have been obtained by various experimenters he believes to be mechanical.—*Biochem. Centralbl., Leipz.*, 1908, v. 7, p. 539.

McLaughlin, W. B., discusses several methods of disinfection with formaldehyde solution that have been employed and outlines what he believes to be a new and efficient method, which consists in the employment of a mixture of the vapors of carbolic acid and formaldehyde gas. He employs 75 parts of a 40 per cent solution of formaldehyde and 25 parts of carbolic acid, using 8 ounces of this mixture to 1,000 cubic feet of air space. The mixture may be either volatilized from a retort, or, as a matter of convenience, sheets saturated with it may be hung in the room to be disinfected.—*Sc. Am. Suppl.*, 1908, v. 66, p. 171.

Fyfe, John William, asserts that solutions of formaldehyde are efficient and valuable bactericides. Formaldehyde as a disinfectant may be sprinkled in a 2 to 5 per cent solution over the room or cloths saturated with the solution may be hung about the room. The various lamps and disinfectors in which formaldehyde is generated by heating para-formaldehyde constitute convenient methods of using this disinfectant.—*Eclectic Rev.*, 1908, v. 11, p. 286.

"H. M." outlines a method of disinfecting by means of solution of formic aldehyde and potassium permanganate. He points out that for each 100 cubic meters of space 2 kg. of potassium permanganate, 2 liters of solution of formic aldehyde, and 2 liters of water are required.—*Pharm. Zentralh.*, 1908, v. 49, p. 861.

Doerr and Raubitschek (Wien klin. Wochenschr., 1907, p. 720) discuss the cold method of liberating formaldehyde gas, and assert that for 100 cubic meters of space it is necessary to use 2 kg. of potassium permanganate, 2 kg. of formaldehyde solution, and 2 kg. of water.—Hyg. Rundschau, 1908, v. 18, p. 425.

Buckley, J. P. (Western Dental Journal) asserts that equal parts of formaldehyde and 10 per cent borax solution in water make a solution in which instruments are readily disinfected without tarnishing.—Dental Cosmos, 1908, v. 50, p. 432.

Anderson, J. F. (Am. Pub. Health Ass. Rep. Bost., 1908, 33, pt. ii, 89-100) discusses the antiseptic and germicidal properties of solutions of formaldehyde and their action upon toxins.—Index Medicus, 1909, v. 7, p. 342.

Sollmann, Torald, discusses the actions of some of the derivatives of formaldehyde and their fate in the body.—J. Am. M. Ass., 1908, v. 51, pp. 818-824.

Langheld discusses the relations of formaldehyde and malignant tumors, and reports observations on the effect of a formaldehyde spray.—Therapist (The), London, 1908, v. 18, pp. 61-64.

Additional references on the use of formaldehyde will be found in the Index Medicus and the J. Am. M. Ass.

LIQUOR MAGNESII CITRATIS.

Morgan, William F., recommends a modification in the method of making solution of magnesium citrate. He uses hot water to facilitate the reaction, and filters while hot.—Bull. Pharm., Detroit, 1908, v. 22, p. 121.

Dudman, F. E., presents an easy method of making solution of magnesium citrate which he thinks obviates many of the difficulties complained of. He recalls the advice of George F. H. Markoe, that this preparation is not intended to be kept, but should be made within a few days of its use.—Drug. Circ., N. Y., 1908, v. 52, p. 380.

Weijer, P., criticizes the "Solutio citratis magnesici" of the Ph. Ndl. IV, and points out that the preparation is not identical with the well-known effervescent mixture that it was designed to replace.—Pharm. Weekblad, 1908, v. 45, pp. 1071-1074. (See also comments by J. Dekker and F. A. Erkelens, *ibid.*, 1908, v. 45, pp. 1534, 1535.)

Astruc and Combe report observations on several methods of making "purgative limonade of magnesium citrate;" also the variation in MgO content under differing conditions of manipulation.—Bull. pharm. du Sud-est., Montpel., 1908, v. 13, pp. 257-261.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 235 samples of solution of magnesium citrate, 57 of which were below standard.—See also Drug. Circ., N. Y., 1908, v. 52, p. 87.

Lehn & Fink (Annual Report for 1908, p. 28) report examining a sample of so-called magnesium citrate which, though deliciously flavored with oil of lemon, gave no tests for magnesium or citric acid. It contained sodium, potassium, and tartaric acid.

Kebler, L. F., reports on a sample of effervescent magnesium citrate which contained no citric acid or citrate, and only a trace of salts of magnesium.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 781.

LIQUOR PANCREATICUS N. F.

Fairchild, B. T., points out that the liquor pancreaticus of the N. F. is not identical with the preparation originated under this name in England. He suggests that the N. F. preparation be called "liquor pancreatinum."—Bull. Am. Pharm. Ass., 1908, v. 3, p. 54.

LIQUOR PHOSPHATUM ACIDUS N. F.

Blome, Walter H., reports on 5 samples of acid phosphates; two satisfactory; specific gravity of the others was: 1.0705, 1.0714, 1.073.—Proc. Michigan Pharm. Ass., 1908, p. 95.

LIQUOR PLUMBI SUBACETATIS.

St. Martin, George M., assayed 10 samples of solution of lead subacetate, varying in strength from 16 to 24.5 per cent, and 10 samples of diluted solution of lead subacetate varying from 0.25 to 5.5 per cent lead subacetate. He points out that the greater majority of the solutions obtained do not conform with the U. S. P. requirements of 25 per cent and 1 per cent.—Proc. Massachusetts Pharm. Ass., 1908, pp. 80–81. (See also Apothecary, Boston, 1908, v. 5, p. 377.)

LIQUOR POTASSII ARSENITIS.

Lyons, A. B., reports a study of the official solution of potassium arsenite and concludes that under ordinary conditions Fowler's solution undergoes progressive oxidation, the arsenite it contains becoming gradually converted into arsenate. Until the subject has been more fully studied the precaution should be taken to keep Fowler's solution only in containers completely filled, and in any case to prepare a fresh supply at least as often as once in 12 months.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 901–905.

Chumaceiro, H. M., expresses surprise that the international formula, which he quotes, has not been adopted in the United States. He recommends that the arsenous acid be first dissolved in a very small quantity of water, together with the potassium carbonate and then add the rest of the water as recommended in the Ph. Ndl.—Drug. Circ., N. Y., 1908, v. 52, p. 323.

Fischer, Richard, reports on 94 samples of Fowler's solution analyzed, of which 13 (or 14 per cent) were passed as lawful, containing the equivalent of 0.95 per cent to 1.05 per cent of arsenious oxide. Thirty samples were between 0.9 per cent and 0.95 per cent, 33 samples between 0.75 and 0.90 per cent, 9 samples between 0.50 and 0.75 per cent, while 8 samples, or 1 out of every 12, fell below one-half strength, the lowest containing 0.35 per cent of arsenious oxide. One sample was found to be of almost double strength, containing 1.88 per cent of arsenious oxide. All of the samples found to be below one-half strength were analyzed for total arsenic, but in no instance was any appreciable amount of arsenic compound found in the "arsenic condition."—Rep. Dairy & Food Com., Wisconsin, 1909, p. 103. (See also Rep. Wisconsin Bd. Health, 1908, p. 41.)

Bachman, Gustav, reports that all samples of Fowler's solution analyzed were found to be below the pharmacopœial requirements, ranging from 0.673 to 0.854. This was no doubt due to the fact that most of the arsenous oxide, As_2O_3 , labeled C. P. does not assay 99.8 per cent pure As_2O_3 .—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Arny, H. V., reports on 8 samples of solution of potassium arsenite examined: 5 were of pharmacopœial strength, while the rest were 0.88 gm., 0.92 gm., and 0.96 gm. arsenic trioxide to 100 c. c.—Proc. Ohio Pharm. Ass., 1908, p. 89. (See also Midland Druggist, 1908, v. 10, p. 15.)

Koplik, Henry, discusses the treatment of chorea minor, with especial reference to the dangers of the arsenic therapy.—Med. Rec. N. Y., 1908, v. 73, pp. 95-97.

Foltz, K. O., in discussing the materia medica of the eye, asserts that Fowler's solution is indicated by the thin, watery, excoriating secretion.—Eclectic M. J., Cincin., 1908, v. 68, p. 34.

Wells, G. Harlan, in discussing the treatment of pulmonary tuberculosis, asserts that arsenic is employed for its physiological effects in the form of Fowler's solution, 3 to 5 drops in an ounce of water, after meals.—Hahnemann Month., Phila., 1908, v. 43, p. 601.

LIQUOR SODÆ CHLORINATÆ.

Arny and Dawson present some additional observations on the making of solution of chlorinated soda and outline several processes for making the solution and an assay method for determining the available chlorine.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 841-845.

Smith, Kline & French Co. (Analytical Report, 1908, p. 24), report that the available chlorine in the 13 samples of solution of chlorinated soda examined by them ranged from 0.065 to 4.92 per cent.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 75.

Sauer, Max (Pharmaz. Ztg., 52, 954, 13/11, 1907), discusses the preservation of *Eau de Javelle*, and reports observations he has made

in connection with the destruction of colored bottles containing it.—Chem. Zentralbl., Berl., 1908, v. 79, p. 155.

Kunze, Klut, and Radant (Pharmaz. Ztg. 52, 972, 20/11, 1907) report observations on the same subject.—*Ibid.*, 1908, v. 79, p. 666.

Referring to the observations of Sauer, Kunze, and others, concerning the spontaneous fracture of brown (or white) glass bottles used for the storage of solution of chlorinated soda, a correspondent of the "Pharmaceutische Zeitung" ("A. M."), mentions that he has noticed the same effect, but that it is not confined in his experience to brown and white glass containers, earthenware bottles being affected in the same way when used for the storage of *Eau de Javelle*. He has obviated this disaster to the containers by storing the freshly prepared liquor with the precipitate in white glass bottles, which are then stoppered with cotton and covered with a loosely fitting glass cap. As required, the solution is filtered into the cork-stoppered store (or cellar) container to the height of two-thirds its capacity.—*Ibid.*, 1908, v. 79, p. 994.

LIQUOR SODII PHOSPHATIS COMPOSITUS.

Posey, H. G., criticizes the official formula for compound solution of sodium phosphate, and recommends that the quantity of citric acid be increased to 260 gm., and that solution be effected by aid of a water bath instead of continued trituration.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 980.

Hankey, Wm. T., thinks that the crystallization that frequently occurs in the compound solution of sodium phosphate is due to the fact that the official provision, that uneffloresced sodium phosphate be used, is ignored.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 94.

Klenze, W. F., asserts that the trouble with this preparation is the inability to get the ingredients all into solution and to prevent a subsequent precipitation. It is further suggested that, if the ingredients be put into a bottle in a fairly warm place over night, a perfect solution would result with no subsequent precipitation.—Apothecary, Boston, 1908, v. 5, p. 24.

Feil, Joseph, finds that the main trouble is to get the ingredients all into solution and to prevent a subsequent precipitation.—Drug. Circ., N. Y., 1908, v. 52, p. 113.

Towle thinks the official formula is very poor and should be abandoned. He outlines a method for making a good permanent solution.—Proc. Ohio Pharm. Ass., 1908, p. 56.

LITHII CARBONAS.

Moerk, Frank X., points out that lithium salts are to be tested for other alkalies by solubility of the chloride in amyl alcohol; no directions are given to wash the insoluble matter prior to weighing.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 898.

Hill, Charles Alexander, suggests as a standard for lithium carbonate, lead 10 parts per million, and arsenic, 2 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797. (See also Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 28.)

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 23) examined 6 samples of lithium carbonate, which, with the exception of traces of sulphate, met the requirements of the B. P. C., the lowest degree of purity recorded being 98 per cent. They point out that very few commercial samples satisfy the demands of the French Codex.

Harvey, T. F., reports that 60 samples showed 98.2 to 100 per cent by direct titration.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

LITHII CITRAS.

Alcock, F. H., finds the U. S. P. test for lithium citrate much ahead of that of the Ph. Brit., but suggests a simpler one.—Pharm. J., Lond., 1908, v. 27, p. 586.

Hill, Charles Alexander, suggests as a standard for lithium citrate, lead, 5 parts per million, and arsenic, 1 part per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797. (See also Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 28.)

LITHII SALICYLAS.

Engelhardt and Jones report that of 9 samples of synthetic lithium salicylate examined, 3 contained phenol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 868.

Smith, Kline & French Co. (Analytical Report, 1908, p. 24) report examining 2 samples of lithium salicylate, both of which were satisfactory.

LOBELIA.

Eriksson, Ella, describes and figures the structural characteristics of the stem of *Lobelia inflata*.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, pp. 405–409.

Farwell, A. O., asserts that lobelia is often collected in large quantities late in the season, after most of the leaves have fallen and the plant has gone to seed. Collected under such conditions the herb presents an unsightly appearance and is of very inferior quality. Lobelia seed is frequently adulterated to the extent of 50 or 60 per cent, by weight, of fragments of seed pods and sand, mostly sand.—Merck's Rep. N. Y., 1908, v. 17, p. 34.

Hood, S. C. (Vermont Sta. Rpt., 1907, pp. 371–386), reports that the culture of lobelia in Vermont is not likely to prove profitable.—Exp. Sta. Rec., 1908–9, v. 20, p. 335.

Sayre, L. E., points out that the menstruum for fluid extract of lobelia was changed from 48.5 per cent alcohol to 10 per cent acetic

acid. This invalidates all fluid extracts previously made.—Merck's Rep., N. Y., 1908, v. 17, p. 4.

Beringer, George M., outlines a formula for fluid glycerate of lobelia, with the procedure to be followed, and asserts that this is a good product, showing but a trace of precipitate and possessing all the acidity and irritating taste of the drug. It mixes clear with water, sirup, or diluted alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 997.

Webb, Frank, discusses the hypodermic use of lobelia, and asserts that he has had good results from its use in about all the cases that it is indicated in.—Eclectic Rev., 1908, p. 11, pp. 335-337.

Jentzsch, E., discusses the use of lobelia as a vegetable antitoxin in diphtheria, points out the reasons why this remedy is effective, and compares the results obtained with the results obtained by the antitoxin treatment.—Tr. Nat. Elect. M. Ass., 1908, v. 36, pp. 74-78.

The same author characterizes lobelia as a vegetable antitoxin and asserts that in his hands this remedy has transformed diphtheria into a benign and harmless affection. He has also found lobelia to be a prompt and most reliable remedy in apoplexy, epilepsy, or in any condition where the cerebral circulation is disturbed.—Eclectic Rev., 1908, v. 11, pp. 222-225. (See also J. Therap. and Dietet. Boston, 1908-9, v. 3, pp. 36-39.)

Burnett, John Albert, asserts that lobelia is a nontoxic agent, but like all other substances could cause death in some conditions when improperly used. The great relaxing effect of lobelia indicates its great range of usefulness. When it is used as a general relaxant it is used in large doses, but in cases of disease where local relaxation is needed, small doses act only on the diseased part.—Eclectic Rev., 1908, v. 11, pp. 76-78.

LUPULINUM.

The therapeutic committee of the British Medical Association suggests that lupulinum be deleted from the Ph. Brit., as it is inactive in official doses; of little use in any dose.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Kebler, L. F., reports on a sample of lupulin which contained approximately twice as much ash as allowed by U. S. P.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 781.

Francis, John M., asserts that 19 out of 20 samples of lupulin examined by him had exceeded the official limitation for ash.—*Ibid.*, 1908, v. 56, p. 796.

Blome, Walter H., reports on 3 samples of lupulin. One assayed 27.8 per cent of ash. The others left, respectively, 16.66 and 15.97 per cent of ash and contained 78.15 and 74.3 per cent resin.—Proc. Michigan Pharm. Ass., 1908, p. 93.

Smith, Kline & French Co. (Analytical Report, 1908, p. 24) report the examination of 4 samples of lupulinum; mechanical impurities were found in all, the ash ranged from 17 to 30.4 per cent; soluble in ether, 66.7, 60.1, 54, and 63.34 per cent, respectively.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 75.

Dohme and Engelhardt report on a shipment of lupulin containing only 56 per cent of ether soluble matter, while the U. S. P. requires 60 per cent. The ash obtained by incinerating the drug with ammonium nitrate amounted to 23.4 per cent (U. S. P. not more than 10 per cent).—Proc. Am. Pharm. Ass., 1908, v. 56, p. 816.

Schneider, Albert, reports 1 sample of lupulin which was found adulterated with 8 per cent excess of sand (black).—Pacific Pharmacist, 1908, v. 2, p. 392.

Philipp Röder (Jahresbericht, Wien, 1908, p. 83) reports on 9 samples of lupulin which were found to contain from 9.46 to 17.84 per cent of ash. Seven of the samples did not comply with the Ph. Austr. VIII requirements and were therefore rejected. The accepted samples contained 9.46 and 9.89 per cent of ash, respectively.

LYCOPODIUM.

Rathje, Arnold, reports some observations on the characteristics and constituents of oil of lycopodium.—Arch. d. Pharm., 1908, v. 246, p. 699.

The Committee on the Pharmacopœia of the Department of Utrecht recommends that a chemical test for starch be added to the requirements for lycopodium.—Pharm. Weekblad., 1908, v. 45, p. 245.

Smith, Kline & French Co. (Analytical Report, 1908, p. 24) report examining 3 samples of lycopodium, all being of U. S. P. quality. The ash content was 1, 1.5, and 1.7 per cent, respectively.

Blome, Walter H., reports that all samples of lycopodium examined were good.—Proc. Michigan Pharm. Ass., 1908, p. 93.

Rusby, H. H., found two shipments adulterated with pine pollen and another with potato starch.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 771. (See also p. 792.)

“Dr. W.” asserts that lycopodium is frequently asserted to be adulterated when the admixture is purely accidental and really negligible. The abstract includes an outline of desirable limitations: small amounts, 1 per cent of starch or foreign pollen should not be considered as adulterations.—Pharm. Ztg., Berl., 1908, v. 53, p. 181.

Philipp Röder (Jahresbericht, Wien, 1908, p. 102) reports on 6 samples of lycopodium which were found to contain from 1.18 to 2.92 per cent of ash. Two of these samples were found to be adulterated and a third sample contained no lycopodium at all, but consisted of the pollen grains of *Picea excelsa*.

Caesar & Loretz (*Geschäfts-Bericht*, 1908, p. xli) assert that adulteration of lycopodium appears to be on the increase. A sample submitted to them recently was found to contain upward of 30 per cent of starch. They point out (p. 107) that the pharmacopœial limitations for ash, 3 to 5 per cent, are abnormally high, as the ash of a pure product does not exceed 2 per cent.

"T. F. T." in criticising the use of lycopodium as a diluent for menthol snuff, asserts that lycopodium is certainly not inert.—*Pharm. J.*, Lond., 1908, v. 27, p. 423.

MAGMA MAGNESIÆ.

Boehm. John J., presents a formula for magna magnesiæ with detailed directions for preparing. The formula and process yield a heavier precipitate than that obtained from the N. F. formula.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 154. (See also p. 88.)

MAGNESII CARBONAS.

Miller, A. W., asserts that at least one manufacturer of magnesium carbonate labels his product as being for technical use only, and is marketing another quality seven or eight times the price as being U. S. P. grade. So far as he could learn retail druggists are still buying the ordinary quality of magnesium carbonate for pharmaceutical uses.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 45-46.

Feil. Joseph. asks if the article labeled "For technical use," still almost exclusively used for pharmaceutical purposes, is good enough for the latter. The U. S. P. article is quoted at seven or eight times the price of the other.—*Drug. Circ. N. Y.*, 1908, v. 52, p. 113.

Gane and Webster assert that it is possible for the retail druggist to obtain magnesium carbonate answering the U. S. P. requirements without paying the high prices asked for in some quarters. They point out that it is not safe to use the technical article for medicinal preparations unless tested beforehand.—*Drug. Topics*, New York, 1908, v. 23, p. 196.

Kahn. Joseph. asserts that magnesium carbonate and a good many other chemical products marked "for technical use" are extensively used for pharmaceutical purposes. The manufacturer or wholesaler specifies "for technical use," and that suffices for the technicality of the law (Federal); the pharmacist, however, is the responsible party before the State law. Some steps should be taken, therefore, to relieve the retailer as far as possible from responsibility for the sale of drugs purchased by him in good faith.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 213.

Hills, Walter, in addition to the tests already noted for magnesium carbonate, suggests a further test for lead, and a limit for arsenic; 4

parts per million.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908). Lond., 1908, p. 28.

Kebler, L. F., reports that it is exceptional to find magnesium carbonate which complies with the pharmacopœial standards.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

An editorial points out that much of the commercial magnesium carbonate, while it contains the full percentage of magnesium carbonate called for by the U. S. P., does not comply with the limitations for foreign soluble salts. It is the difficulty and expense of removing these latter substances that makes some manufacturers disinclined to prepare a product that will always comply with the U. S. P. requirements.—Drug Topics, New York, 1908, v. 23, pp. 177-178.

Gane, E. H., reports 8 samples of magnesium carbonate which left a residue on ignition of from 39.94 to 42.2 per cent and yielded from 85.56 to 97.1 per cent oxide and from 0.5 to 2.75 per cent of foreign salts. Five of the samples were up to U. S. P. requirements.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 771.

Patch, E. L., examined 7 samples leaving, on ignition, a residue of from 42.3 to 46.2 per cent and yielding from 91 to 99.13 per cent oxide. All U. S. P.—*Ibid.*, v. 56, p. 771.

Smith, Kline & French Co. (Analytical Report, 1908, p. 24) report that 2 of the 4 samples of magnesium carbonate examined by them contained an excess of foreign soluble salts.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 75.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 23) report the examination of 12 consignments of magnesium carbonate in which no serious amounts of the more dangerous impurities were detected. Chlorides, sulphates, iron, aluminium and sodium occurred occasionally, but only as minute traces.

Philipp Röder (Jahresbericht, Wien, 1908, p. 102) points out that the Ph. Austr. VIII requirement, that 0.5 gram of magnesium carbonate should not yield more than 1 mgm. of soluble material to water, is not practical, as magnesium carbonate itself is slightly soluble in water. Of 4 samples examined 1 was found to be unsatisfactory because of mechanical impurities.

MAGNESII OXIDUM.

Dohme and Engelhardt assert that the U. S. P. test for detecting carbonate in magnesium oxide is rather indistinct, and suggest that a quantitative determination would be advisable.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 817.

Hill, Charles Alexander, suggests, as a standard for magnesium oxide, lead 20 parts per million, arsenic 4 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

Rusby, H. H., found several lots containing an excess of iron.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 771.

Blome, Walter H., reports on 1 sample of calcined magnesia examined, which contained a trace of iron.—Proc. Michigan Pharm. Ass., 1908, p. 93.

Smith, Kline & French Co. (Analytical Report, 1908, p. 24) report that 2 of the 6 samples of magnesium oxide examined by them contained an excess of foreign soluble salts.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 75.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 23) detected pronounced arsenical contamination in one-third of the samples of magnesia examined by them, from 10 to 30 parts per million occurring in several. The remaining samples were satisfactory.

Philipp Röder (Jahresbericht, Wien, 1908, p. 103) reports that of 6 samples of magnesium oxide examined only 2 complied with the requirements of the Ph. Austr. VIII, the remaining samples containing an excess of carbon dioxide and iron.

MAGNESII OXIDUM PONDEROSUM.

Hills, Walter, in addition to the tests already noted for heavy magnesium oxide, suggests a further test for lead and a limit for arsenic, 4 parts per million.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 28.

MAGNESII SULPHAS.

Woolsey, J. F., reports on two lots of Epsom salts which separated a varnish-like organic substance from aqueous solution. Two other lots contained an excess of iron. All rejected.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Baird, J. W., quotes, from the Summary of Drug Statistics of the State Board of Health for 1906, 1 sample of magnesium sulphate which was found to be genuine.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 24) report the examination of 84 samples of magnesium sulphate only four of which showed the presence of more than 4 parts of arsenic per million, and of these three belonged to the lower grade. Lead was practically absent. In no case was the purity of the salt below 98 per cent.

Shadid, M. (Ellingwood's Therapeutist), recommends the use of a compound tincture of cardamon and sirup of ginger to disguise the taste of magnesium sulphate.—Drug Topics, New York, 1908, v. 23, p. 233.

Auer, John, in a report on the purgative effect of saline cathartics, reviews the work done by MacCallum and by Bancroft and reiterates

his formerly made assertion that magnesium sulphate when injected subcutaneously or intravenously did not cause intestinal peristalsis or purgation; moreover, that these injections directly inhibited existing peristalsis.—*J. Biol. Chem.*, N. Y., 1908, v. 4, p. 209.

Steel, Mathew, presents the results of his study of the influence of magnesium sulphate on metabolism.—*Ibid.*, 1908, v. 5, pp. 85-124.

Marinesco and Gradinesco discuss the observations made by Meltzer and Auer on the analgesic action of the salts of magnesium.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 620-622.

Meltzer and Auer discuss the antagonistic action of calcium upon the inhibitory effect of magnesium.—*Proc. Roy. Soc.*, 1908, v. 80, p. 260. (See also *Am. J. Physiol.*, 1908, v. 21, pp. 400-419, 449-453.)

Brophy, Truman W., calls attention to the usefulness of a saturated solution of magnesium sulphate for controlling pain in connection with inflammatory processes.—*Dental Cosmos*, 1908, v. 50, p. 345.

The same author relieved pain in a case of actinomycosis by external application of hot saturated solution of magnesium sulphate.—*Ibid.*, 1908, v. 50, p. 79.

Tucker, Henry, discusses the use of magnesium sulphate solution in the treatment of erysipelas, reports 19 cases, and asserts that of 35 uncomplicated though severe cases, all recovered within from 2 to 7 days.—*Therap. Gaz.*, Detroit, 1908, v. 32, pp. 381-383. (See also *Merck's Arch.*, N. Y., 1908, v. 10, pp. 245-247.)

An editorial discusses the use of magnesium sulphate as an external application and calls attention to the paper by Tucker.—*Therap. Gaz.*, Detroit, 1908, v. 32, p. 409.

Lyon, Morton, reports a case of tetanus treated successfully with magnesium sulphate by hypodermoclysis.—*J. Am. M. Ass.*, 1908, v. 50, p. 1688.

Miller, Robert T., reports a case of tetanus treated with subarachnoid injections of magnesium sulphate, followed by recovery. Also calls attention to 13 other cases that have been reported.—*Am. J. M. Sc.*, Phila., 1908, v. 136, pp. 781-784.

Powers, W. H., reports the successful treatment of a case of tetanus by means of magnesium sulphate.—*Med. Rec.*, N. Y., 1908, v. 74, p. 146.

Mon, R. García, discusses the use of magnesium sulphate in the treatment of tetanus.—*Rev. Med. Cir. Habana*, 1908, v. 13, p. 544.

The editor gives the bibliography relating to the use of magnesium sulphate in the treatment of tetanus.—*J. Am. M. Ass.*, 1908, v. 50, p. 790.

Cruveilhier, L., reports certain experimental results in the employment of magnesium sulphate in the treatment of tetanus. No beneficial results were obtained and the author concludes that in the

treatment of this disease no dependence should be placed on Epsom salts.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, p. 111.

MALTUM.

Pearson, W. A., believes that an assay for the starch-converting power of malt should be introduced, as may commercial grades are inert.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 77.

Hunicke, H. Aug., discusses the determination of extract in malt.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1431-1440.

Dohme and Engelhardt report having considerable trouble with barley malt; the samples examined contained an excess of acid, and were deficient in diastase, which would make them unfit for use in making malt extracts. They recommend the method adopted by Harrison and Gair (*Year-Book of Pharmacy*, 1906) for determining the quality of malt and its preparations.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 815.

MANGANI DIOXIDUM PRÆCIPITATUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 25) report examining 4 samples of precipitated manganese dioxide, all being of U. S. P. quality. The strengths ranged from 80 to 88.78 per cent.

Blome, Walter H., reports on 1 sample of manganese dioxide; 84.37 per cent pure, claimed to be 95 per cent.—*Proc. Michigan Pharm. Ass.*, 1908, p. 93.

Coblentz, Virgil, reports 2 samples of manganese dioxide below the U. S. P. standard.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 761.

Greenwood, H. P., assayed 12 samples of precipitated manganese dioxide varying from 73.6 to 88 per cent MnO_2 . Five were above and 7 below standard.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 80.

MANGANI HYPOPHOSPHIS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 25) report that the 1 sample of manganese hypophosphite examined by them had an acid reaction to litmus, and was not soluble in 20 parts water.

MANGANI SULPHAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 25) report 1 sample of manganese sulphate examined; 88.5 per cent pure.

MANNA.

Ebert, Alfred, discusses the pharmacognostic characteristics of several rare varieties of manna and related substances. Presents a bibliography including upward of 110 titles of papers relating to

these products.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 427, ff.

Philipp Röder (Jahresbericht, Wien, 1908, p. 103) reports on 2 samples of manna which were found to contain 1.03 and 1.15 per cent of ash, respectively, and were 82.5 and 90.2 per cent soluble in alcohol.

MARRUBIUM.

Mitlacher, Wilhelm, describes and illustrates the characteristic plant hairs of *Marrubium vulgare*.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 3.

Gordin, H. M., discusses the chemistry of marrubin, the bitter principle of horehound (*Marrubium vulgare*, Linné.).—J. Am. Chem. Soc., 1908, v. 30, pp. 265–271.

Beringer, George M., outlines a formula for fluid glycerate of marrubium and the procedure to be followed, and asserts that this product has deposited but a very scant sediment. It has the odor and taste of horehound and should prove useful. It mixes clear with water or sirup and nearly clear with diluted alcohol, but alcohol produces a copious precipitate and turbidity.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 997.

MASSA HYDRARGYRI.

Simpson, Gilbert, reports examining 14 samples of blue pill, outlines the method adopted, and points out that commercial samples vary from 31 to 36 per cent of mercury.—Year-Book of Pharmacy, London, 1908, pp. 469–471. (See also Pharm. J., Lond., 1908, v. 27, p. 350; for discussion see p. 408.)

Bennett, R. R., thinks the hypophosphorous acid method of determining mercury, in the official pill or pill mass, is much easier of application than the old fashioned combustion method.—Year-Book of Pharmacy, London, 1908, p. 471.

MATICO.

Rusby, H. H., asserts that five shipments of spurious matico have reached New York within the year.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 789.

Weigel, G., points out that much of the matico that is now available has characteristics quite distinct from the true drug derived from *Piper angustifolium*. The false drug does not possess the characteristic odor of matico, and has been identified as being derived from *Piper mandonii* DC., a native of Peru.—Pharm. Zentralh., 1908, v. 49, p. 974.

Rusby, H. H., notes that *Piper mandonii* is substituted for *Piper angustifolium*. The hairs of the genuine are single and weak, with

thin walls, while in the spurious the hairs are stellate and have the walls so greatly thickened as almost to obliterate the lumen. The leaves of the latter when burned yield twice as much ash as those of the former, and this ash contains two or three times the percentage of silica. Medicinally the *mandonii* is weaker.—*Drug. Circ., N. Y.*, 1908, v. 52, p. 370.

The same author asserts that genuine and spurious *matico* are easily distinguished, the latter having only about one-third the medicinal activity of the former. Its hairs are large, strong, and thick walled, the cavity being little more than a faint line. The hair of the genuine, on the other hand, is nearly all cavity, its wall so thin that the hair frequently collapses.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., p. 139. (*Bull. Bur. Chem., U. S. Dept. Agric.*, 1909, No. 122.)

MATRICARIA.

Woolsey, J. F., reports on chamomile flowers and believes that little of this drug was to be had, during the year, of first quality.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 81.

Caesar & Loretz (*Geschäfts-Bericht*, 1908, p. xxi) report that the quality as well as the quantity of the available chamomile leaves much to be desired.

Beringer, George M., outlines a formula for fluid glycerate of *matricaria* with the procedure to be followed, and asserts that the product deposited a copious gelatinous precipitate and was not considered as satisfactory, although possessing the bitterness and aroma of the drug. It mixes clear with sirup or diluted alcohol, slightly cloudy with water, and turbid with alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 997.

An abstract asserts that *chamomilla* is useful in spasmodic conditions attending teething in infants.—*Eclectic M. J.*, *Cincin.*, 1908, v. 68, p. 266.

MEL.

Browne, C. A., discusses the chemical analysis and composition of American honeys.—*Bull. Bur. Chem., U. S. Dept. Agric.*, No. 110, 1908, pp. 9-99.

Lehn & Fink (*Annual Report for 1908*, pp. 17-18) point out that the analysis of honey can not always be based with any degree of confidence on the official tests. They think the use of Fehling's solution and the polariscope are better methods for estimating saccharine products than the one given in the U. S. P.

Harvey, T. F., reports that genuine honey should be *lævorotatory*; cane sugar in the majority of samples does not exceed 6.5 per cent; Swiss chemists allow 16 per cent; probably a 10 per cent limit would include most genuine samples. Water varies from 15 to 24 per cent,

and the ash rarely ever exceeds 0.25 per cent.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

Utz discusses the estimation of solids in honey by means of the Zeiss immersion refractometer.—Pharm. Prax., 1908, v. 7, pp. 405-412.

Fiehe, I., reports some observations on the detection of cane sugar and its decomposition products as a means for recognizing artificial honey, as distinct from natural honey.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 1045-1046.

Koebner, M., discusses the test, proposed by H. Ley, to distinguish natural from artificial honey by means of an ammoniacal solution of silver. He suggests that the reaction is probably due to the presence of some substance having the property of holding the silver in colloidal solution.—*Ibid.*, 1908, v. 32, p. 89.

Utz discusses the Marpmann reaction for determining the difference between cold extracted and heated honey. The reaction depends upon the color reaction of enzymes with hydrogen dioxide and phenylendiamine.—Ztschr. f. öffentl. Chem., 1908, v. 15, pp. 21-28.

Farnsteiner, K., discusses the formic acid content of honey and points out that it would be preferable to indicate the acid content of normal honey as malic acid, as the amount of formic acid present is ordinarily negligible.—Ztschr. f. Unters. Nahr. u. Genussm., 1908, v. 15, pp. 598-604.

Schwarz, F., discusses the value of determining the ash content of honey, reviews the statements that have been made in this connection and concludes that the ash content is not indicative of the origin or purity of a sample of honey. Ley's silver test he believes to be a valuable indication of the origin or purity of honey. He concludes that a honey which contains less than 0.1 per cent of ash, and gives a doubtful reaction with Ley's test, is to be considered as being adulterated.—*Ibid.*, 1908, v. 15, pp. 403-412.

Utz disagrees with the above conclusions.—*Ibid.*, pp. 607-609.

Schwarz replies.—*Ibid.*, pp. 739-742.

Riechen and Fiehe discuss the value of the resorcin-hydrochloric acid reaction in the analysis of honey.—Chem. Ztg., Cöthen, 1908, v. 32, p. 1090.

Utz reviews the acid content requirements that are made in the Ph. Germ. IV and by various writers. He reports on 175 samples of widely varying origin, which were found to vary from 0.0368 to 0.3312 per cent of formic acid.—Pharm. Post, Wien, 1908, v. 41, pp. 69-70, 81-83.

Smith, Kline & French Co. (Analytical Report, 1908, p. 25) report that they examined 21 samples of honey, all of which were satisfactory.

Scoville, W. L., found several lots of honey containing added invert sugar.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

Barnard, H. E., reports that the 12 samples of honey examined complied with the requirements.—Rep. Indiana Bd. Health, 1908, p. 199.

Abbott, J. S., reports 4 samples analyzed, 1 legal, 3 illegal.—Rep. Dairy & Food Com. Texas, 1908, p. 6.

Fitz-Randolph, R. B., reports that of the 119 samples of honey examined, 6 were found to be adulterated with invert sugar. The old-time adulterants of honey, cane sugar and glucose, have almost disappeared from the market, but invert sugar is being used by the unscrupulous manufacturers, who believe that its presence can not be detected by the chemist. There is little difficulty, however, in detecting this substance when added in sufficient quantity to make such addition profitable.—Rep. New Jersey Bd. Health, 1908, p. 223.

McGill, A., reports that of 253 samples of so-called strained honey collected throughout the Dominion in April and May, 1907, 188 were normal, 31 had a high water content, 4 were doubtful, 16 apparently adulterated, and 14 sold as compound. This bulletin contains a memorandum on the variability of honey and the tabulated results of a special examination of certain honey samples.—Bull. Lab. Int. Rev. Dept. Canada, No. 145, 1908, p. 29.

In a supplementary report of 141 samples, 135 were found to be genuine, 3 doubtful, 2 adulterated, and 1 sold as compound.—*Ibid.*, No. 148, 1908, p. 17.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 18) report the results of their examination of 19 samples of honey from different geographical sources. Loss at 100° C. 13.4 to 18.7 per cent; ash, 0.09 to 0.28 per cent; specific gravity (33.3 per cent solution) 1.095 to 1.106; optical rotation, $-1^{\circ}20'$ to $-4^{\circ}12'$.

Schaffer, F., reports on 9 samples of honey, 5 of authentic purity, which yielded widely varying analytical results.—Ztschr. f. Unters. Nahr. u. Genussm., 1908, v. 15, pp. 604–606.

Gehe & Co. (Handels-Bericht, 1908, pp. 42–43) point out that because of the increased price of honey, much of the available material is adulterated or sophisticated. They point out the difficulty of detecting the more refined adulterations and enumerate a number of tests.

Additional references on the chemistry and the adulteration of honey will be found in Chem. Abstr. Am. Chem. Soc., and in Exp. Sta. Rec.

MENTHA PIPERITA.

Eriksson, Ella, describes and illustrates the anatomy and the development of the stalks of *Mentha piperita* and other plants belonging to the genus *Labiata*.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, p. 244.

Koch. Franz Otto, discusses the cultivation of peppermint in Japan and asserts that the plant has been cultivated in that country for

upward of 2,000 years.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 144.

Inouye, Naojiro, presents a comprehensive review of the history and cultivation of peppermint in Japan and describes and illustrates the production of the oil. Also discusses the chemistry of the oil and describes a number of samples examined by him.—Schimmel & Co., Semi-Ann. Rep., November, 1908, pp. 199-232.

An unsigned article describes methods for the cultivation of peppermint and the production of the oil.—Midland Druggist, 1908, v. 10, pp. 211-213.

Henriksson, J., presents short descriptions, with illustrations, of a number of related plants.—Svensk. farm. Tidkr., 1908, v. 12, pp. 205-208, 225-231.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xxix) point out that peppermint is essentially a leaf drug and that the available commercial article is frequently contaminated by the addition of the coarser, woody stem.

Robertiello, A. B., recommends making the official spirit of peppermint extemporaneously by mixing the oil, alcohol, and a 25 per cent tincture of peppermint previously prepared.—Bull. Pharm., Detroit, 1908, v. 22, p. 37.

Barnard, H. E., reports on 8 samples of essence of peppermint analyzed. Four were of U. S. P. strength, containing 10 per cent of peppermint oil dissolved in 80 per cent alcohol. Two, of the 4 illegal, contained a sufficient amount of alcohol, but were deficient in the oil content.—Rep. Indiana Bd. Health, 1908, p. 320.

Baird, J. W., quotes, from the Summary of Drug Statistics of the State Board of Health for 1906, 12 samples of spirit of peppermint examined, 10 genuine and 2 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Sayre, L. E., reports 6 samples of essence of peppermint examined, of which 5 were illegal.—Bull. Kansas Bd. Health, 1908, v. 4, p. 68, ff.

Dunlap, Renick W., reports on 6 samples of extract of peppermint examined, 3 pure and 3 adulterated.—Rep. Dairy & Food Com., Ohio, 1909, p. 52.

Lythgoe, Hermann C., reports that the 6 samples examined were found not to conform to the pharmacopœial requirements, all of them having been made with weak alcohol, and consequently little, if any, of the peppermint oil was in solution.—Rep. Massachusetts Bd. Health, 1908, p. 611.

MENTHA VIRIDIS.

The report of the therapeutic committee of the British Medical Association, in suggesting the deletion of spearmint, asserts that it is very little used and unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Phenis, Albert, calls attention to experiments in spearmint raising in Louisiana and asserts that mint experts declare the resulting oil to be of the highest grade.—Paint, Oil and Drug Review, Chicago, 1908, v. 46, July 29, p. 27.

MENTHOL.

Inouye, Naojiro, describes and illustrates the methods employed in Japan for the separation of menthol and for its recrystallization.—Schimmel & Co., Semi-Ann. Rep., November, 1908, pp. 223–225.

Schimmel & Co. (*Ibid.*, April, 1908, p. 125) in discussing the Ph. Japon. III requirements for menthol point out that the melting point, if taken exactly, lies between 43.5° and 44.5° , and that menthol boils at about 217° , if the mercury thread of the thermometer is entirely surrounded by the vapors.—(See also discussion of Ph. Helv. IV requirements, *Ibid.*, p. 131, and of B. P. C., *Ibid.*, p. 143).

The same firm (*Ibid.*, November, 1908, pp. 142–143) in discussing the B. P. C., 1907, asserts that the statement, that all menthols contain adhering oil, is erroneous, pure menthol being free from oil.

They also (*Ibid.*, November, 1908, p. 146), in discussing the Ph. Fr. V requirements for menthol, point out that a 10 per cent alcoholic solution of menthol rotates about 5° to the left, and that they have observed a specific rotation of -49.04° in a 52.37 per cent alcoholic solution. They have detected no pronounced difference between the solubility of menthol in fatty oil and in mineral oil. At the temperature of the room it dissolves in either in the proportion of about 25 per cent.

Smith, Kline & French Co. (Analytical Report, 1908, p. 25) report that all of the 4 samples of menthol examined by them were of U. S. P. quality.

Scoville, W. L., found several lots of menthol containing an excess of oil.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 771.

Hommell, P. E., asserts that menthol is oftentimes exhibited externally as a very satisfactory analgesic, anæsthetic, antiseptic, and stimulant; its use is increasing, and he would suggest an ointment of menthol 50 gms., adeps lanæ hydrosus 450 gms., white petroleum 500 gms. Dissolve the menthol in the white petroleum with the aid of gentle heat, and incorporate the wool-fat.—Proc. New Jersey Pharm. Ass., 1908, p. 102.

METHYLIS SALICYLAS.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 149), in discussing the B. P. C. requirements for artificial wintergreen oil, assert that the specific gravity at 15° is from 1.175 to 1.190.

Lehn & Fink (Annual Report for 1908, p. 18) point out that the essential identity of methylis salicylas, oleum betulæ, and oleum gaultheriæ, together with the impossibility of detecting adulteration of the natural oils with the synthetic product, make it desirable to include all three under one title.

The committee on drug market asserts that methyl salicylate can be manipulated to give it the bead and rotary power of the true oil, so that even the best analysts can not determine the difference between them.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 765.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 146), in discussing the Ph. Fr. V requirements for methyl ester of salicylic acid, point out that the specific gravity at 15° falls between 1.185 and 1.190.

Smith, Kline & French Co. (Analytical Report, 1908, p. 25) report that the 2 samples of methyl salicylate examined by them were of U. S. P. quality.

Engelhardt and Jones report that of 15 samples of synthetic oil of wintergreen examined by them 4 contained phenol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 868.

Gibbs, H. D., discusses the separation of salicylic acid from methyl salicylate and the hydrolysis of the ester.—Philippine J. Sc., 1908, v. 3, A., pp. 101-109.

The same author reports the results of experiments on the solubility in water of methyl salicylate at 30°.—*Ibid.*, 1908, v. 3, A., pp. 357-359.

METHYLTHIONINÆ HYDROCHLORIDUM.

Dohme and Engelhardt assert that the requirements that methylene blue should yield 0.4 per cent of ash are rather stringent. They have repeatedly received samples of this substance which yielded ash up to 1.2 per cent. The ash, however, was perfectly free from zinc.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 817.

Blome, Walter H., reports that methylene blue always contains at least traces of iron and zinc.—Proc. Michigan Pharm. Ass., 1908, p. 93.

Shafer, George D., finds that methylene blue, shortly after being introduced into the blood, is found (in the kidney) as a reduced colorless compound only in the cells of the proximal and distal convoluted tubules, as also in those of the wider limb of Henle's loop. The reduced leuco-compound is then slowly secreted by these cells into the kidney tubules, from which it passes with the urine to become oxidized to the blue compound (in large part at least) in the bladder.—Am. J. Physiol., 1908, v. 22, pp. 335-352.

Achard and Aynaud contribute a brief note on the reduction of methylene blue by the globulins, and adduce certain facts which they

consider new arguments in favor of the living nature of globulins.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 65, p. 57.

Fleig, C. (*Compt. rend. Soc. biol., Par.*, 65, 620-2), discusses the detection of the chromogens of methylene blue, as found in the urine, by means of oxidizing agents in the presence of acids.—*Chem. Abstr. Am. Chem. Soc.*, 1909, v. 3, p. 552.

Sieplein, C. A., recommends the use of French chalk or talcum for removing stains of methylene blue from the hands.—*Bull. Pharm., Detroit*, 1908, v. 22, p. 117.

Massol and Minet report observations on the absorption of methylene blue from the rectum, and its appearance in the urine.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 447-449.

Davis, F. P. (*Medical Harbinger*), is quoted as asserting that methylene blue is a very efficient antiseptic, and unquestionably one of the very best suggestive remedies we possess. To be able to positively state the action any drug will have is to gain the confidence of the patient, which all will admit is an essential factor in the treatment of any case. When patient sees the blue urine just as he has been informed it will appear, the psychological impulse becomes complete and the case will respond more readily to treatment.—*Eclectic Rev.*, 1908, v. 11, pp. 52-53.

MEZEREUM.

The therapeutic committee of the British Medical Association suggests that mezereum be deleted from the *Ph. Brit.*, as it is not required.—*Pharm. J., Lond.*, 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

MISTURA FERRI COMPOSITA.

Hommell, P. E., recommends that the compound iron mixture of the U. S. P. be dismissed, as it is rarely prescribed, and while it is very effective from a therapeutic standpoint, yet other forms of iron are now given. He commends the mixture of rhubarb and soda, but would suggest that the *Pharmacopœia* hereafter direct that it should be filtered.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 104.

MORPHINA.

Hood, S. C. (*Vermont Sta. Rpt.*, 1907, pp. 371-386), reports that although the cultivation of poppies for the capsules and seed is not considered promising for Vermont, it is believed that they may be successfully cultivated in the future for the direct production of morphine.—*Exp. Sta. Rec.*, 1908-9, v. 20, p. 335.

Malling, N. P., reports observations on the morphine content of poppy capsules and of some of the preparations made from this

drug.—Arch. f. Pharm. og. Chem. Copenhagen, 1908, v. 15, pp. 185–188, 234–237, 282–286.

Gordin, H. M., reviews the progress made in the chemistry of morphine and of some of the related compounds.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 12–16.

Franke, M., in a compilation of the several methods that have been offered for the assay of opium, presents a description of the physical and chemical properties of morphine.—Apoth. Ztg., Berl., 1908, v. 23, p. 309.

Reichard, C., discusses the detection of morphine for medico-legal purposes and some of the difficulties that are met with.—Pharm. Zentralh., 1908, v. 49, pp. 951–954.

Kempf, Richard, discusses the purification of morphine by means of vacuum sublimation. The melting point of the purified substance he finds to be from 253–254° C.—J. f. prakt. Chem., Leipzig, 1908, v. 78, p. 248.

Heikel, Gunnar, reports experiments to determine the availability of potassium mercuric iodide solution for the quantitative determination of morphine.—Chem. Ztg. Cöthen, 1908, v. 32, p. 1186.

Hoshida, C., discusses the identification of morphine and of oxydimorphine, and outlines a new reagent for the latter substance. This consists of a mixture of 0.15 gm. of sodium molybdate, 10 drops of solution of formaldehyde (35 per cent), and 30 cc. of concentrated sulphuric acid. With oxydimorphine this reagent gives a violet color that rapidly changes to a permanent bluish green. With morphine the same reagent gives a violet color which changes gradually to bluish violet.—J. Pharm. Soc., Japan, 1908, p. 798.

Welmans, P., points out that solutions of the salts of morphine readily decompose at temperatures above 60–62° C. He suggests preparing solutions by using sterile bottles and previously sterilized solvent.—Pharm. Ztg., Berl., 1908, v. 53, p. 320.

van Rijn, W., (Pharm. Weekblad, 44, 1353–1356; Chem. Centr., 1908, 1, 174) reports the analysis of various parts of a rabbit killed by poisoning with morphine hydrochloride, and shows that for evidence of morphine poisoning the analysis is most important. He gives the amounts found in the various organs.—Chem. Abstr., Am. Chem. Soc., 1908, v. 2, No. 8, p. 1106.

Edlefsen (München. Med. Wehnschr., 1908, 1 v., 567–589) outlines a simple method for detecting morphine in the stomach and intestines.—Index Medicus, 1908, v. 6, p. 487.

Lewin, L., (Medizinische Klinik, Berl., v. 4, No. 43) cites the case of a man who died after about two years from the time he had worked in the morphine room of a chemical factory where he had occasion to wash cloths used in filtering morphine.—J. Am. M. Ass., 1908, v. 51, p. 2010.

Hensel, O., discusses the treatment of morphinism, and points out the need for thoroughly overcoming the craving for this or similar drugs.—*Merck's Arch.*, N. Y., 1908, v. 10, pp. 378-383.

Douglas, Charles J., states that the morphine habit can be cured with certainty by keeping the patient under hypnotics other than morphine during the sudden withdrawal of the latter. He does not mention the particular narcotic to be employed, but states that each case calls for individual consideration.—*Med. Rec.*, N. Y., 1908, v. 74, p. 404.

Gamgee, A., discusses the treatment of chronic morphinism. The gradual withdrawal method is recommended.—*Lancet*, 1908, v. 1, p. 794.

Duckworth, Dyce, lectured on the opium and morphine habits, and gave statistics as well as a consideration of the pathology of the use of these drugs.—*Ibid.*, 1908, v. 1, p. 439.

Rübsamen, W., reports on an experimental study of habituation to morphine.—*Arch. f. exper. Path. u. Pharmakol.*, Leipz., 1908, v. 59, pp. 227-244.

Spitta, W., reviews the several theories relating to the decomposition of morphine in the animal organism and the nature of morphine diabetes.—*Ztschr. f. exper. Path. u. Therap.*, 1908, v. 5, pp. 94-104.

Faringer, H. P., enumerates morphia among the palliatives that are useful in the treatment of migraine.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 525.

Gramm, J., asserts that in the management of puerperal convulsions morphia has served a useful purpose and has saved life.—*Ibid.*, 1908, v. 43, p. 327.

Blain, Alexander W., jr., concludes a clinical study of general anæsthesia with the statement that the so-called "morphine-hyoscine anæsthesia" is unscientific, equally as dangerous as chloroform, and has no place in surgery.—*N. York M. J.*, 1908, v. 87, p. 891.

Hobday, Frdk., discusses the value and use of morphine in canine surgery, and enumerates some of the advantages and disadvantages of its use.—*Vet. J.*, Lond., 1908, v. 64, pp. 220-228.

For additional references on the action and uses of morphine see *Index Medicus* and *J. Am. M. Ass.*

NONOFFICIAL COMPOUNDS.

Hirschalf, L. (*Therap. Monatsh.*, October, 1908, reports observations on the possible therapeutic uses of morphine brommethylate as a substitute for other salts of this alkaloid.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 937.

Hale, Worth, reporting on the action of the alkaloids of the Papaveraceæ, questions Dreser's statement that heroin has no effect upon the heart, excepting a secondary one, depending on the decrease in

oxygenation of the blood; when compared with codeine and morphine it is considerably more deleterious to the frog's heart. He also finds that morphine and codeine are clearly less toxic to the motor nerve endings than is heroin.—*Am. J. Physiol.*, 1908, v. 23, pp. 389-411.

MORPHINÆ ACETAS.

The report of the therapeutic committee of the British Medical Association, in suggesting the deletion of morphine acetate, asserts that it possesses no advantage over the hydrochloride.—*Suppl. Brit. M. J.*, 1908, v. 2, p. 320.

MORPHINÆ HYDROCHLORIDUM.

Senta, S., reports observations to determine the influence of morphine hydrochloride on the absorption of O_2 and the liberation of CO_2 by isolated muscles.—*Arch. internat. de pharmacod. et de therap.*, 1908, v. 18, pp. 232-234.

MORPHINÆ SULPHAS.

Smith, Kine & French Co. (Analytical Report, 1908, p. 25) report that all of the 8 samples of morphine which they examined were satisfactory except one, which contained morphine alkaloid.—See also *Proc. Pa. Pharm. Ass.*, 1908, p. 75.

MOSCHUS.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 152-153) discuss the condition of the musk market. They also (*Ibid.*, November, 1908, pp. 150-151) report the amount of musk exported from Shanghai from January 1 to June 30, during the years 1903-1908.

Pearson, W. A., believes that an odor limit test for musk would be advisable.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 77.

The report of the therapeutic committee of the British Medical Association, in suggesting the deletion of musk, asserts that it is unnecessary.—*Pharm. J., Lond.*, 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

Mittelbach, Wm., would eliminate tincture of musk entirely from the list of official preparations; it seems to be of so little use that none of our journals quote a price on it. The source of musk is ground enough for its dismissal as a medicine.—*Proc. Missouri Pharm. Ass.*, 1908, p. 98.

Betts, Norman S., in discussing the management of the menopause, recommends the use of moschus for the heated flashes accompanied by localized or general sweating, vertigo, headache, and cardiac palpitation.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 426.

MYRISTICA

Spaeth, Eduard, discusses the pharmacognostic characteristics of nutmeg, the adulterants met with, and their recognition.—Pharm. Zentralh., 1908, v. 49, pp. 627–629.

Power and Salway report a chemical examination of nutmeg and a study of the physiological action of this drug.—Am. J. Pharm., Phila., 1908, v. 80, pp. 563–580.

The therapeutic committee of the British Medical Association suggests that myristica be deleted from the Ph. Brit., as the oil alone is required.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Schneider, Albert, reports 3 samples of nutmeg; 2 pure and 1 adulterated with some black pepper and foreign tissue.—Pacific Pharmacist, 1908–9, v. 2, p. 392.

Sayre, L. E., reports a sample of ground nutmeg containing whole seed and adulterated with mace and spermoderm.—Bull. Kansas Bd. Health, 1908, v. 4, p. 298.

Fitz-Randolph, R. B., reports that, of the 15 samples of nutmeg examined, none were found to be adulterated.—Rep. New Jersey Bd. Health, 1908, p. 221.

Cushny, Arthur R., addressed the Royal Society of Medicine on the subject of nutmeg poisoning.—Brit. M. J., Lond., 1908, v. 1, p. 387. (See also Lancet, 1908, v. 174, p. 495.)

MYRRHA.

Kühl, Hugo, asserts that the ash content of good myrrh does not exceed 6 per cent. Commercial myrrh he classifies as “Myrrha naturalis” and “Myrrha electa,” the latter having been washed with alcohol to give it a bright, shining surface. The acid number, ester number, and saponification number of myrrh he finds, vary considerably.—Apoth. Ztg., Berl., 1908, v. 23, p. 162.

Harvey, T. F., reports that an ash limit of 5 per cent would be unduly severe; 10 per cent is more reasonable.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

von Friedrichs, O., reports a chemical examination of Heerabol myrrh.—Bot. Centralbl., Cassel., 1908, v. 107, p. 638.

Tollens, B., criticizes the contribution by O. von Friedrichs on Heerabol myrrh and calls attention to a contribution on the products of the hydrolysis of gum of myrrh made by him several years previous.—Arch. d. Pharm., 1908, v. 246, p. 70.

Woolsey, J. F., reports on 12 samples of myrrh; 5 powder, 7 tears. The former had an ash percentage of from 7 to 13.47; solubility in alcohol, from 29.20 to 34.44; 2 of these were 52.05 and 43.50 per cent soluble in water, the other 3 containing from 5.81 to 13.50 per

cent moisture. The 7 tears samples had a solubility in alcohol of from 14.30 to 21.20 per cent, and a solubility in water from 55.35 to 70.15 per cent.—Proc. Pennsylvania Pharm. Ass., 1908, p. 86.

Philipp Röder (Jahresbericht, Wien, 1908, p. 87) asserts that myrrh is usually liberally adulterated. Three samples examined contained from 5.45 to 31.23 per cent of ash; 2 of these samples were rejected because of their ash content.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xli) assert that much of the commercial article is contaminated with the so-called Somali myrrh, which does not comply with pharmacopœial requirements. They also point out that myrrh usually contains upward of 7 per cent of ash and that the pharmacopœial limitation of 6 per cent (Ph. Ndl. IV, 5 per cent) is too low.

Barnard, H. E., reports on 1 sample of tincture of myrrh examined having a specific gravity at 20° C. of 0.8363; alcoholic volume at 20° C., 84.7; and 5.20 gms. extract per 100 cc.—Rep. Indiana Bd. Health, 1908, p. 341.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 215 samples of tincture of myrrh, none of which was below standard.

Kühl, Hugo, found the dry residue in tincture of myrrh to vary from 1.154 to 2.224 per cent. He suggests that percolation at from 30 to 40° C. would give most satisfactory results.—Apoth. Ztg., Berl., 1908, v. 23, p. 162.

NAPHTHALENUM.

Kempf, Richard, discusses the sublimation of naphthalene and reports experiments on the vacuum sublimation of this substance. He finds the melting point of the purified substance to be 80.8° C. in place of 80.06° C., the melting point usually given in the literature.—J. f. prakt. Chem., Leipz., 1908, v. 78, pp. 233 and 256.

Boucher, Volcy, reviews the several reactions available for differentiating between the several naphthols and outlines tests for determining the several compounds and detecting admixtures of one in the other.—Bull. pharm. du. sud-est, Montpel., 1908, v. 13, pp. 207-211.

NUX VOMICA.

Rusby, H. H., reports on 1 large shipment of nux vomica consisting of small worthless seeds which had been rolled in some mixture of clay.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 794.

Patch, E. L., reports 5 assays ranging from 1.208 to 1.268 strychnine.—*Ibid.*, 1908, v. 56, p. 771.

Vanderkleed, Charles E., reports 6 assays of nux vomica: 1.090 per cent lowest; 1.850 per cent highest; 1.418 per cent average; 4 above and 2 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Woolsey, J. F., reports that all lots of powdered nux vomica examined were high in alkaloids and satisfied the U. S. P. requirements.—*Ibid.*, 1908, p. 81.

Clark, A. H., asserts that but 1 sample out of 8 examined was below the standard of 1.25 per cent of strychnine.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 802.

Smith, Kline & French Co. (Analytical Report, 1908, p. 25) report that the strychnine content of the 9 samples of nux vomica which they examined ranged from 0.914 to 1.6 per cent.

Schneider, Albert, reports on 1 sample of nux vomica, which was found adulterated with 8 per cent of wheat flour.—*Pacific Pharmacist*, 1908-9, v. 2, p. 392.

Blome, Walter H., reports on 1 sample of nux vomica assaying 1.11 per cent strychnine.—*Proc. Michigan Pharm. Ass.*, 1908, p. 94.

Carr and Reynolds found nux vomica beans to vary from 0.81 per cent to 2 per cent strychnine.—*Pharm. J., Lond.*, 1908, v. 80, p. 543.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 129-130) reports on 5 samples of nux vomica which were found to contain from 1.54 to 2.52 per cent of ash. The total alkaloid content varied from 2.70 to 3.44 per cent.

Alcock, F. H., submits a method for the valuation of powdered nux vomica and the results obtained therewith, as to extractive and ash.—*Pharm. J., Lond.*, 1908, v. 27, p. 353. (See also Year-Book of Pharmacy, London, 1908, p. 429.)

Caesar & Loretz (Geschäfts-Bericht, 1908, p. cxx) outline Fromme's modification of the Keller method for determining the total alkaloid content of nux vomica.

Leuchs, Hermann, discusses the oxidation of brucine and strychnine with potassium permanganate dissolved in acetone.—*Ber. d. deutsch. chem. Gesellsch., Berl.*, 1908, v. 41, II, pp. 1711-1720.

Pearson, W. A., asserts that the assay for nux vomica is long and tedious. Even with great care and seemingly like conditions, 1 sample of the mixed alkaloid appears to oxidize much faster than another. To insure complete destruction of the brucine, he recommends the addition of 1 cc. of a 5 per cent solution of sodium nitrite immediately after adding the nitric acid.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 77.

Umney and Bennett assert that the U. S. P. assay process for nux vomica is a distinct improvement on that of the Ph. Brit., for the brucine is entirely destroyed by the nitric acid in 10 minutes, if the solution is heated to 50° C., as recommended by Farr and Wright. In the Ph. Brit. method the separation of brucine from strychnine is not complete, and, though the results are very near the truth, the strychnine extracted is never free from brucine, and a small proportion of the strychnine remains in the ferrocyanide solution.—*Pharm. J., Lond.*, 1908, v. 27, p. 345.

Moerk, Frank X., points out that in the assay of extract of nux vomica the extract is dissolved in ether, chloroform, and ammonia and the beaker directed to be rinsed with a little chloroform; it does not take much additional chloroform to change the original light ether-chloroform mixture into a heavy one, which would nullify the balance of the assay. It would be better to rinse the beaker with an ether-chloroform mixture using the proportions first given.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 900.

Heikel, Gunnar, outlines a method for the quantitative estimation of strychnine in fluid extract of nux vomica, by precipitation with Mayer's reagent.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1213.

Harvey, T. F., reports that for the assay of extract of nux vomica Reynolds and Sutcliffe's modification, adding powdered sodium carbonate in diminished quantity, answers exceedingly well. For the strychnine determination, Gordin's modification of Keller's process gives good results. (Compare Reynolds and Sutcliffe, *J. Soc. Chem., Ind.*, 1906, 512, etc.).—*Chem. & Drug.*, Lond., 1908, v. 72, p. 904.

Wright, Robert, contributes a note on the strychnine standard for galenical preparations of nux vomica.—*Pharm. J.*, Lond., 1908, v. 27, p. 366.

Gane and Webster point out that in determining the amount of strychnine in preparations of nux vomica and ignatia, it is desirable to obtain the total alkaloids in a fair state of purity preliminary to isolating the strychnine. They outline a method of assay that may be conducted in an ordinary cassia flask.—*Drug. Topics*, New York, 1908, v. 23, p. 180.

Webster, M. H., reports examining 1 sample of extract of nux vomica, 25 years old, which was found to contain 1.014 per cent of alkaloids, not varying from the results of an examination made two years previously.—*Chem. & Drug.*, Lond., 1908, v. 73, p. 172.

Smith, Kline & French Co. (Analytical Report, 1908, p. 19) report that, in 7 samples of extract of nux vomica examined by them, the strychnine ranged from 4.5 to 8.25 per cent.

Bachman, Gustav, reports that the samples of extract of nux vomica examined ranged from 3.98 to 5.01 per cent.—*Proc. Minnesota Pharm. Ass.*, 1908, p. 50.

"C. C." [C. Crinon?] notes that the Ph. Fr. V replaces 80 per cent alcohol with 70 per cent, and requires that the extract should contain 16 per cent total alkaloids, the strength adopted by the Brussels Conference.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 536.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22), report 3 samples of fluid extract of nux vomica assayed; strychnine in 100 cc., 0.988, 0.997, and 1.214 gm.

Fitz-Randolph, R. B., reports that of the 4 samples of tincture of nux vomica examined, 3 were found to contain less strychnine than

required by the Pharmacopœia; they contained respectively 0.071, 0.070, and 0.083 gm. of strychnine per 100 cc.—Rep. New Jersey Bd. Health, 1908, p. 227.

Dunlap, Renick W., reports on 15 samples of tincture of *nux vomica*, 4 pure and 11 adulterated.—Rep. Dairy & Food Com., Ohio, 1909, p. 52.

Sayre, L. E., reports that the 4 samples of tincture of *nux vomica* tested were satisfactory.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 152, 154, 183, 248.

Beringer, George M., outlines a formula for fluid glycerate of *nux vomica* and the procedure to be followed, and asserts that this product is peculiar from the fact that while it has not precipitated, it became thick and opalescent and the thickening has increased to a mucilaginous consistence. It mixes clear with sirup, cloudy with water or diluted alcohol, and turbid with alcohol. It assayed 0.996 gm. strychnine in 100 c. c. This preparation will require further experiment and possibly a change in the acid constituent will make it entirely satisfactory. Proc. Am. Pharm. Ass., 1908, v. 56, p. 998.

Dixon and Harvey present some notes on the action of brucine and conclude that the relative toxicity of strychnine to brucine for mammals is as 33 to 4.—Pharm. J., Lond., 1908, v. 27, p. 367. (See also Year-Book of Pharmacy, London, 1908, pp. 496–498.)

Wright, Robert, in commenting on the above report points out that a strychnine standard for *nux vomica* is preferable to one of total alkaloids.—Year-Book of Pharmacy, London, 1908, pp. 496–498.

An editorial points out that recent investigations by Dixon and Harvey show that brucine, while not as potent as strychnine, is nevertheless quite a toxic substance, though acting in a different manner.—Drug Topics, New York, 1908, v. 23, p. 370.

Wells, G. Harlan, asserts that *nux vomica* and its alkaloid strychnia are very useful drugs in cases where the appetite is poor and an atonic condition of the stomach exists.—Hahnemann. Month., Phila., 1910, v. 43, p. 601.

OLEATUM HYDRARGYRI

Lehn & Fink (Annual Report for 1908, p. 6) call attention to the variation in color of the oleate of mercury on the market, and point out some of the causes. They think that the use of heat is unnecessary in the manufacture of this oleate.

Diekman, George C., found 4 samples of oleate of mercury, all obtained from reliable sources, no two of which were alike in appearance. The Pharmacopœia should, he thinks, direct that oleate of mercury be protected from the light.—Am. Druggist, N. Y., 1908, v. 53, p. 219. (See also Drug. Circ., N. Y., 1908, v. 52, p. 633.)

OLEA INFUSA N. F.

Hellwig, F., calls attention to the origin of infused oil of hyoscyamus and the variety of preparations that have been known from time to time under this title.—*Apoth. Ztg.*, Berl., 1908, v. 23, pp. 313-314.

OLEA PINGUA.

Rusting, N., discusses the determination of the saponification number of fats and recommends using a solution of potassium hydroxide and potassium soap in absolute alcohol in place of the alcoholic solution of potassium hydroxide usually employed.—*Pharm. Weekblad*, 1908, v. 45, pp. 433-435.

Wegscheider, Rud., discusses the theory of saponification and reports experiments to demonstrate the progressive nature of the reactions involved.—*Monatsh. f. Chem.*, Wien, 1908, v. 29, pp. 83-134, 233-234. (See also *Bot. Centralbl. Cassel*, 1908, v. 108, p. 280.)

Fanto and Stritar discuss the theory of saponification, report a number of experiments and conclude that the reaction takes place practically direct.—*Monatsh. f. Chem.*, Wien, 1908, v. 29, pp. 299-316.

They present also some additional observations on the theory of saponification.—*J. f. prakt. Chem.*, Leipz., 1908, v. 78, pp. 35-41.

Kremann, R., replies to criticisms of his article contained in the above.—*Ibid.*, 1908, v. 78, pp. 364-367.

Andresen, Siegfried, points out that in the Ph. Dan. VII the iodine and the saponification numbers are to be determined according to the methods given in the Ph. Germ. IV. The method for determining the acid number is described at some length.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 78.

Bean, Percy, in a brief paper on the preliminary examination of fats, oils, and waxes calls attention to the "vaporizing point test" which he outlines.—*Pharm. J.*, Lond., 1908, v. 80, pp. 408-409.

van Rijn, W., reports on samples of sesame oil containing zinc salts and points out the desirability of keeping this oil in glass containers rather than in metal.—*Pharm. Weekblad.*, 1908, v. 45, pp. 21-26.

Fleig, C. (*Bull. Soc. chim.*, 1908, IV, 3, 984-991, 992-999) reports the results of investigations on the color reactions of sesame oil with aromatic aldehydes and various sugars, and the similar reactions with biliary acids.—*Abstr. J. Chem. Soc.*, Lond., 1908, v. 94, Part II, p. 994.

Labat, A., reports observations on a characteristic green coloration yielded by a mixture of oil of sesame and hydrochloric acid.—*Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 193-197.

Also discusses the several reactions for detecting the presence of oil of sesame in olive oil.—*Ibid.*, 1908, v. 48, pp. 197-199.

Pollard, E. W., presents a note on Valenta's test, the temperature at which a warm mixture of acetic acid and oil becomes turbid, which gave rise to considerable discussion.—*Pharm. J.*, Lond., 1908, v. 27, p. 361. See also pp. 410, 423, 454, 480, 507, and *Year-Book of Pharmacy*, London, 1908, pp. 523-527.

Schulz-Kolin, Ferdinand (*Chem. Ztg.*, 1908, 345) states that a solution of commercial picric acid in benzine produces a red color with mineral oils, and also with rosin oil, but not with other oils of either animal or vegetable origin. With refined petroleum a cherry-red color is produced, while vaselin oils or lubricating oils assume a more or less dark blood-red color, according to the degree of refinement. Moreover, "pure" picric acid does not produce this reaction, although the presence of small quantities of the "commercial" picric acid develops the reaction, which may thus serve for the detection of mineral (or rosin) oil in vegetable or animal oils and fats.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 305.

Woolsey, J. F., reports on several fixed oils including sperm oil, rape seed oil, and cocoanut oil.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 83.

OLEA VOLATILIA.

Charabot and Laloue contribute a note on the mechanism of the distribution of the odoriferous products in the plant.—*Compt. rend. Acad. d. sc. Par.*, 1908, v. 147, p. 144.

The committee on drug market has been informed that many fictitious oils have been developed to meet the pharmacopœial requirements, as the standards seem to refer to ordinary lots or are based upon examination of particular samples and do not take into account the great variation in nature's handiwork.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 766.

Pancoast and Pearson discuss adulteration of volatile oils and assert that it is an open secret that sophistication is practiced quite extensively.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 216-221.

The report of the Bureau of Chemistry reviews the work done in connection with the essential oils laboratory and the work that has been done to establish methods for the identification of these substances.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 432.

Dohme and Engelhardt point out that during the last year volatile oils have been received of a much greater purity and only a few did not answer the official tests.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 819.

Heuisler, P. L., reports that although the shipments received during the last year showed up more favorably in regard to purity several lots had to be rejected on account of insufficient physical constants, viz, specific gravity, optical rotation, etc.—*Proc. Maryland Pharm. Ass.*, 1908, p. 35.

Baird, J. W., says that it is necessary to make a careful selection of essential oils in order to obtain those that are true to the requirements of the U. S. P.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 76.

Wilbert, M. I., calls attention to the fact that manufacturers and dealers are selling essential oils and other substances that are guaranteed to be compounded, or fit only for technical use, and that some retail druggists are buying these products for use in their prescription departments.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 45.

Gane and Webster discuss the great variation in the quality of essential oils offered to the drug trade and present a number of laboratory observations.—*Drug Topics*, New York, 1908, v. 23, p. 308.

Bernegau, L. Henry, has encountered considerable difficulty in connection with the determinations of optical rotation of the essential oils. In not a few instances he has met with specimens that differed widely from the official requirements.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 43.

Kraemer, Henry, in discussing the variability in optical rotation of essential oils, expressed the belief that this factor could be materially changed by a number of conditions, or the presence of materials, not necessarily contaminations, readily overlooked.—*Ibid.*, 1908, v. 80, p. 44.

Moerk, Frank X., asserts that the determination of phenols and aldehydes in volatile oils, as given in the U. S. P., by agitation with suitable reagents and reading off in a burette the undissolved volume, is neither speedy nor very accurate. He has obtained very good results by using a centrifuge and graduated bottles as used for milk analysis.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 900.

Pearson, W. A., asserts that the detection of inferior and adulterated volatile oils is a problem difficult of solution, but it might be aided by the introduction of an odor limit test. He asserts the odor of the best grade of some oils is extremely tenacious, while that of their substitutes and those of inferior quality is much less persistent.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 79.

Pancoast and Pearson suggest that for practical purposes a comparative odor test would appear to be the most desirable method for judging essential oils. As a rule pure oils will retain their same fundamental odor until the end of the experiment, while an adulterated or synthetic oil will pass through a series of variations depending on the nature of the mixture.—*Ibid.*, 1908, v. 80, p. 220.

Bennett, C. F., discusses the essential oils of the B. P. C.—*Pharm. J.*, Lond., 1908, v. 27, pp. 622-624.

An editorial discusses the essential oils of the B. P. C. and calls attention to some of the favorable comments that have been made on the monographs contained therein.—*Ibid.*, 1908, v. 26, p. 802.

Schamelhout, A., calls attention to and comments on the review of the Ph. Belg. III essential oils contained in the Semi-Annual Report of Schimmel & Co., for April, 1908.—Bull. Soc. de pharm., Brux., 1908, v. 52, pp. 225-238.

Andresen, Siegfried, points out that volatile oils, in the Danish Pharmacopœia, are designated as "Aetherolea" and are classified under a general heading with tests and prescribed methods for keeping.—Apoth. Ztg., Berl., 1908, v. 23, p. 78.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 122-149) comment on the monographs contained in the Ph. Japon., III, the Ph. Helv. IV, and the B. P. C.

They also comment (*Ibid.*, November, 1908, pp. 142-149) on some of the requirements of the B. P. C. and of the Ph. Fr. V.

An abstract from the Semi-Annual Report of Schimmel & Co., October, 1907, presents some notes on essential oils official in the U. S. P. VIII and the Ph. Dan. VII.—Am. J. Pharm., Phila., 1908, v. 80, pp. 32-35.

An editorial in discussing the Ph. Fr. V points out that the paragraphs on volatile oils, called "essences" in French, contain not only methods for determining the proportion of active substances present, but also particulars regarding the polariscopic estimation of certain of the oils, including bergamot, cinnamon, cloves, lavender, santal, and thyme.—Am. Druggist, N. Y., 1908, v. 53, p. 222.

An editorial calls attention to some of the novel features of the monographs of the essential oils contained in the Ph. Fr. V and quotes the following general tests that are to be applied to all essential oils: (1) No oily stain is to be left on paper after evaporation of a few drops of the oil. (2) No distillate to be obtained by heating on a water bath for 15 to 20 minutes (in order to guard against the presence of alcohol). (3) If a distillate be obtained it must not yield the iodoform reaction. (4) Heat a few cubic centimeters of the oil in a tube closed with a plug of wool, in which a crystal of fuchsine is contained. Alcohol will condense and color the wool through the solution of fuchsine. (5) Shake the oil with an equal volume of glycerin, allow to stand for a few hours, when no diminution in volume should be observed. Essential oils are to be preserved best in well-corked bottles, out of the light, and free from contact with the air.—Chem. & Drug., Lond., 1908, v. 73, p. 413.

A book review calls attention to "The Chemistry of Essential Oils and Artificial Perfumes," by Ernest J. Parry, second edition, revised and enlarged (London, Scott, Greenwood & Co.), and points out that this book contains much information of interest to the pharmacist and will be found invaluable to those engaged in essential oils analysis.—Pharm. J., Lond., 1908, v. 27, pp. 721-722.

Pancoast and Pearson (*Am. J. Pharm.*, 80, 216-221) presents some general remarks and specific consideration of adulterants of oils of bitter almonds, birch, gaultheria, sandalwood, and sassafras.—*Chem. Abstr. Am. Chem. Soc.*, 1909, v. 3, p. 226.

Brandel, I. W., continues his review of progress in our knowledge of volatile oils made during 1901 to 1903, inclusive.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 56-64, 88-96, 246-247, 271-278, 371-376.

Wallach, O., and others present some additional contributions to our knowledge of the chemistry of the terpenes and essential oils.—*Ann. d. Chem.*, Leipz., 1908, v. 365, pp. 240-277; v. 368, pp. 1-22.

Semmler and Bartelt present a contribution to our knowledge of the composition of essential oils in which they report experiments on the derivatives and the constitution of santene.—*Ber. d. deutsch. chem. Gesellsch.*, Berl., 1908, v. 41, pp. 125-130.

An additional contribution discusses the constitution of santene.—*Ibid.*, 1908, v. 41, pp. 385-397, 866-871.

Rochussen, F., discusses the progress made in the chemistry of volatile oils and camphor.—*Ztschr. f. ang. Chem.*, 1908, v. 21, pp. 1501-1506, 1547-1556.

A review of the literature relating to the chemistry, constituents, and behavior of volatile oils and related compounds is presented.—*Jahresb. ü. Tier-Chem.*, Wiesb., for 1908, 1909, v. 38, pp. 719-721.

Kremers, Edward, presents a study of thymoquinone and hydrothymoquinone made in his laboratory by Nellie Wakeman; also a bibliography relating to the same.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 329-337, 364-370.

Bacon, Raymond F., presents several communications on the Philippine terpenes and essential oils.—*Philippine J. Sc.*, 1908, v. 3, A., pp. 49-86.

Ebert, Alfred, discusses the chemistry of isopulegon, reports a number of experiments, and outlines the probable structural composition.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 545, ff.

An unsigned article (*Matières grasses*, 1908, 1232-1233, Nov. 25) contains the results of an examination of a number of samples of essential oils from the Seychelles Islands.—*Chem. Abstr.*, *Am. Chem. Soc.*, 1909, v. 3, p. 473.

Reich, R., discusses the quantitative estimation of volatile oils in spices and other oil-containing plants.—*Ztschr. f. Unters. Nahr. u. Genussm.*, 1908, v. 16, pp. 497-512.

Hortvet and West (*J. Ind. Eng. Chem.*, 1, 84) discuss the determination of essential oils and alcohol in flavoring extracts.—*Chem. Abstr.*, *Am. Chem. Soc.*, 1909, v. 3, p. 1189.

Reich, R., discusses color reactions of some volatile oils and reports experiments with a number of oils and their behavior with hydrochloric acid, sesame oil and hydrochloric acid, and with stannous

chloride solution. He also reviews the results obtained by Hartwich and Winkel with a vanillin hydrochloric acid mixture.—*Ztschr. f. Unters. Nahr. u. Genusssm.*, 1908, v. 16, pp. 452–459.

OLEUM ADIPIS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 26) report that 5 of the 6 samples of lard oil were of U. S. P. quality; 2 contained 3.9 and 2.5 per cent of free acid, respectively.

OLEUM ÆTHEREUM.

Gane and Webster point out that it is exceedingly difficult to obtain oil of wine which will answer even the gravity test of the U. S. P. They assert that the only basis we have at the present time for judging the quality of ethereal oil is by determining the ethereal sulphate present, and in most of the commercial oil of wine the sulphate is conspicuous by its absence. They express the hope that the Committee of Revision of the U. S. P. will in the next issue either indicate with some approach to exactness what ethereal oil should be, or eliminate it altogether. The latter they believe to be the preferable course, as the product is only a relic of empiricism.—*Drug Topics*, New York, 1908, v. 23, pp. 180–181.

Pearson, W. A., believes that the yield of ethereal oil is so variable by the U. S. P. method and the value so questionable that the preparation might well be omitted.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 77.

McKesson, Donald, asserts that most of the oil of wine on the market is found to contain no ethereal sulphates.—*Proc. N. W. D. A.*, 1908, p. 107.

Dohme and Engelhardt report having very much trouble with ethereal oil, either the specific gravity or the color often being wrong.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 819.

Lelm & Fink (Annual Report for 1908, p. 18) point out that ethereal oil is to be had, if at all, only at a prohibitive price, but they think that a true oil might be produced at a reasonable price. The U. S. P. should define more fully the characters of the substance.

Gane, E. H., asserts that it is still exceedingly difficult to obtain a satisfactory product. The so-called heavy and light oils of wine, offered by makers, do not in any way represent the official. All are lighter than water, while the U. S. P. is heavier. They consist of hydrocarbons entirely. The ethereal sulphate required in the official oil is absent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 772.

OLEUM AMYGDALÆ AMARÆ.

Taylor, F. O., reviews the U. S. P. tests and assay processes for oil of bitter almonds and gives results obtained with 22 samples of the commercial article. He asserts that, by the application of the

U. S. P. silver nitrate test exactly as directed, there was not a single one of the 22 samples that did not show a more or less distinct test for chlorides in the aqueous solution. He also criticises the benzaldehyde assay which, because of its giving low results, he believes to be at fault in some particular.—*Am. J. Pharm., Phila.*, 1908, v. 80, pp. 154–162.

The same author calls attention to an error in his article on oil of bitter almonds (*Ibid.*, p. 156, line 11): the word “benzo-nitrile” should be “phenyl-oxyaceto-nitrile.”—*Ibid.*, 1908, v. 80, p. 236.

Pancoast and Pearson assert that the official assay of oil of bitter almonds for benzaldehyde content is exceedingly difficult and think the modification proposed by Roberts and Carwithen a great improvement. They also call attention to the possible adulteration with oil of mirbane.—*Ibid.*, 1908, v. 80, p. 218.

Schimmel & Co. (Semi-Annual Report, November, 1908, pp. 13–15) discuss various methods of determining benzaldehyde in bitter almond oil and call attention to some deficiencies in the U. S. P. method.

Smith, Kline & French Co. (Analytical Report, 1908, p. 26) report that the one sample of oil of bitter almonds examined was of U. S. P. quality.

Blome, Walter H., reports on one sample of oil of bitter almonds assaying 66.28 per cent benzaldehyde.—*Proc. Michigan Pharm. Ass.*, 1908, p. 94.

Bennett, C. T., points out that, in the B. P. C. test for hydrocyanic acid, no blue coloration should be produced, as the presence of a small quantity of HCN may not give a precipitate. Crude oils vary considerably in prussic acid content. He has found from 1 up to 5 per cent. —*Pharm. J., Lond.*, 1908, v. 27, p. 622.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 144) in discussing the Ph. Fr. V requirements for bitter almond oil, point out that, with a large content of prussic acid, the specific gravity is higher than 1.060. It is suggested that a test for chlorinated products should have been included, in view of the frequent adulteration of this oil with artificial benzaldehyde.

An unsigned article points out that in the Ph. Fr. V the only constituents mentioned for oil of bitter almonds are benzaldehyde and hydrocyanic acid. Its specific gravity is given as 1.045 to 1.060, limits which do not include all pure oils. It boils at 180°. It is soluble in 300 parts of water at 15° and in all proportions of 95 per cent alcohol. It is optically inactive. It may contain prussic acid, and a test is given to guard against the addition of nitro-benzene. No test is given for chlorine, which would have guarded against the presence of much of the synthetic benzaldehyde now on the market.—*Chem. & Drug., Lond.*, 1908, v. 73, p. 413.

OLEUM AMYGDALÆ EXPRESSUM.

An editorial discusses the widespread substitution of peach kernel oil for expressed oil of almond, and points out that commercial usage clearly recognizes and sanctions the application of the term "almond oil" to the oil of peach kernels.—*Am. Druggist*, N. Y., 1908, v. 52, p. 248.

Kahn, Joseph, asserts that oil of peach kernel is extensively sold to the retailer as oil of sweet almond, and is generally labeled "Almond Oil French" or "Expressed Oil of Almond, Persician."—*Proc. New York Pharm. Ass.*, 1908, p. 225.

An unsigned article discusses the adulteration of expressed oil of almonds with peach-kernel oil, and gives the iodine value for a number of the fatty oils.—*Drug. Topics*, New York, 1908, v. 23, p. 105.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 13-14, and *Ibid.*, November, 1908, pp. 15-19) discuss the economic conditions relating to expressed oil of almonds and the several oils usually used as substitutes or adulterants.

Harvey, T. F., reports that a maximum figure for the iodine value of 100 is too low; oils ranging from 95.2 to 101 have been met with. Allen and Brewis give 95.8 to 101.3. Thirty-one samples have shown saponification values of 188.3 to 192.2. The published figures accord with a range of 188 to 195. Hence it is difficult to understand the suggested range of 190 to 200. The refractive index of 86 samples of pure almond oil lay between 1.4702 and 1.4710 at 20° C. For the detection of cottonseed, sesame, and arachis oils, the well-known tests of Halphen, Baudouin and Renard should be adopted.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 904.

Barnard, H. E., reports on 3 samples of oil of almonds which had a butyro content at 20° C. of 71.4, 70.2, 71.2; specific gravity, at 25° C., 0.9295, 0.9153, 0.9168, and 2 had a specific gravity at 20° C. of 0.9185, 0.9195, respectively.—*Rep. Indiana Bd. Health*, 1908, p. 339.

Patch, E. L., reports 4 samples ranging from 0.9132 to 0.9144 specific gravity, from 191.2 to 191.3 saponification value, and from 95.1 to 99.87 iodine number.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 771.

Sayre and Zieffle report that 1 sample of oil of sweet almonds examined had become rancid, another was satisfactory.—*Bull. Kansas Bd. Health*, 1908, v. 4, pp. 294-295.

Kebler, L. F., reports a sample of sweet almond oil contaminated with peach and apricot kernel oil.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 781.

Smith, Kline & French Co. (Analytical Report, 1908, p. 26) report that they examined 1 substitute for the true expressed oil of almond which very closely resembled the latter.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 76.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 1 sample of oil of sweet almonds which was found to be adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 102 samples of expressed oil of almonds, 30 of which were below standard.—See also Drug Topics, New York, 1908, v. 23, p. 146.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 3) point out that although almond oil (fixed) is usually of first-class quality, doubtful specimens are sometimes found. They report 1 sample having a specific gravity of 0.920, refractive figure $+9.5$, and giving a pink color with nitric acid. They point out that the higher limit for specific gravity, 0.920, given in the B. P. Codex, is very seldom reached by genuine oils.

OLEUM ANISI.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 136), in discussing the B. P. C. requirements for anise oil, assert that 20° is more suitable than 15° as a temperature of observation, the limits of specific gravity being the same, and point out that the description also includes star anise oil, but that this is occasionally slightly dextro-rotatory.

Heinrich Haensel (Half-Yearly Report, April, 1908, pp. 4-5) asserts that anise seeds, as they occur on the market, are mixed with from 6.5 to 7 per cent of dust and earthy particles. He reports separating the clean seeds into large and small, and distilling each kind separately. The larger anise seeds yielded 2.85 per cent and the smaller 1.7 per cent oil.

Bennett, C. T., in discussing the B. P. C., points out that the anise oil of commerce is almost entirely derived from star anise—the pimpinella oil being much more expensive. Owing to the tendency of this oil to superfusion, the melting point, after solidification, is more reliable as a physical constant than the solidifying point. This lies between 15° and 19° C. The specific gravity limits, 0.975 to 0.990, are for a temperature of 20° C. compared with water at 15° . Rotation 0° to -2° .—Pharm. J., Lond., 1908, v. 27, p. 622.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 136), in discussing the B. P. C. requirements for anethol, point out that it might have been stated that anethol is optically inactive, that it melts between 22.5 and 23° ; the reference given in the B. P. C. applies rather to the solidifying point which lies between 21° and 22° , and that from 2 to 3 volumes of 90 per cent alcohol are needed for solution.

The same firm (*Ibid.*, April, 1908, p. 128), in commenting on the Ph. Helv. IV requirements for anise oil, points out that a good oil

of anise begins to melt only above $+17^{\circ}$, and that as this oil sometimes solidifies spontaneously at 15° , it is better to take the specific gravity at 20° ; the limits in the latter case are 0.980 and 0.990.

They also (*Ibid.*, April, 1908, p. 123), in discussing the Ph. Japon. III requirements for anethol, point out that the melting point of pure anethol lies between 22° and 23° , and that the solubility in 2 parts alcohol is for a temperature of 20° .

An unsigned article notes that in the Ph. Fr. V anise and star anise oils are included under different monographs. The reason for the different figures given is not apparent. Anise oil has a specific gravity 0.980 to 0.990 at 17° , while star anise oil has the same gravity at 15° . Anise oil solidifies at 18° to 14° ; star anise oil at below 15° . Both oils are soluble in three volumes of 90 per cent alcohol, and both are distinctly laevorotatory.—Chem. & Drug., Lond., 1908, v. 73, p. 413.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 143), in discussing the Ph. Fr. V requirements for anise oil, assert that since this oil sometimes solidifies spontaneously at 17° , it is advisable to take the specific gravity at 20° , the limits remaining the same. When the oil is kept in half-filled bottles, or after repeated melting, the solidifying point is lowered.

The same firm (*Ibid.*, November, 1908, p. 147), in commenting on the Ph. Fr. V requirements for star anise oil, point out that a feeble dextrorotation is occasionally observed in this oil.

Weigel, G., calls attention to the properties of the oil of false star anise, which has been offered as Japanese star anise. This oil contains no anethol, has a peculiar and somewhat disagreeable odor, and is not at all likely to be mistaken for true oil of anise.—Pharm. Zentralh., 1908, v. 49, p. 915.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 100) discuss the production of Indo-Chinese star anise oil. Also (pp. 15-16 and *Ibid.*, November, 1908, p. 23) discuss the anise market in Russia.

Gane, E. H., gives the congealing point of genuine star anise oil as being 13° C., or 15° C. Some genuine oils are slightly dextrorotatory. He examined five samples, which ranged from 0.974 to 0.984 specific gravity, from $+0.15^{\circ}$ to $+0.7^{\circ}$ optical rotation, and from 12.8° to 15° congealing point. Four of these samples complied with the U. S. P. requirement for solubility in alcohol, while the remaining sample, which was personally distilled from dried fruits using steam, was only soluble in 3 parts alcohol. Proc. Am. Pharm. Ass., 1908, v. 56, p. 771. (See also Drug Topics, New York, 1908, v. 23, p. 149.)

Brandel, I. W., reviews some recent literature descriptive of star anise oil. He quotes Schimmel & Co., who assert that anise oil has a specific gravity at 15° of 0.9893; optical rotation $+0^{\circ} 18'$; congeal-

ing point $+18^{\circ}$, and is soluble in two volumes of 90 per cent alcohol. They find that star anise oil sometimes has a slight dextrorotation, but is usually lævorotatory.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 95.

Lehn & Fink (Annual Report for 1908, pp. 18–19) report an exceptional sample of oil of anise, in that the optical rotation was very slightly dextrogyrate, while the other constants were correct.

OLEUM AURANTII CORTICIS.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 144–145), in discussing the B. P. C. requirements for orange oil, point out that the specific gravity of oil of bitter orange is 0.854 to 0.857 and the rotation between $+90^{\circ}$ and $+93^{\circ}$ at 20° C.

Bennett, C. T., in discussing the B. P. C., says that he has observed the following limits for bitter orange oil: Specific gravity, 0.849 to 0.851 (15.5° C.); rotation $+89^{\circ}$ to $+93^{\circ}$. Sweet orange: Specific gravity up to 0.854 (15.5° C.); rotation $+95^{\circ}$ to $+98^{\circ}$.—Pharm. J., Lond., 1908, v. 27, p. 622.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 125), in commenting on the Ph. Japon. III requirements for orange oil, point out that only the distilled oils are colorless; expressed oil is yellow to yellow-brown, and that as both bitter and sweet oils are admitted, it would have been better to fix the lower limit of the specific gravity at 0.848, in order not to exclude the sweet orange oils, which are lighter than 0.85.

An unsigned article points out that in the Ph. Fr. V the specific gravity of oil of orange is given as 0.848 to 0.853. Optical rotation at least $+95^{\circ}$.—Chem. & Drug., Lond., 1908, v. 73, p. 414.

Schimmel & Co. (Semi-Annual Report, November, 1908, pp. 146–147), in commenting on the Ph. Fr. V requirements for sweet orange oil, point out that orange oil is yellow to brownish yellow. The turbidity sometimes noticed in the carbon disulphide solution is due to the presence of water in the oil; also the wax-like constituents of the oil may occasionally cause a slight turbidity.

The same authors (*Ibid.*, April, 1908, pp. 44–48) discuss in detail the conditions of the oil of orange market, present a table giving amounts exported from different producing countries to the various countries during the years 1906–7, and a summary of the exports from all countries during the past 10 years.—See also *Ibid.*, November, 1908, p. 58.

Gane and Webster report on a sample of orange oil having a specific gravity of 0.894 and optical rotation $+79^{\circ}$, which contained 10 per cent alcohol.—Drug Topics, New York, 1908, v. 23, p. 309.

Dowzard, Edwin, asserts that it is impossible to distinguish between the oil of bitter orange and the oil of sweet orange, except by

odor and taste. He reports the chemical data obtained in the examination of 17 samples of sweet orange oil.—*Am. J. Pharm., Phila.*, 1908, v. 80, pp. 474-476.

Heuisler, P. I., reports 1 sample rejected which showed an optical rotation of 60° instead of "not less than 95° ."—*Proc. Maryland Pharm. Ass.*, 1908, p. 35.

Dohme and Engelhardt report on an oil of bitter orange having an optical rotation of $+60^\circ$ instead of not less than $+90^\circ$.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 819.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 58) point out that the large production of bitter oranges in Spain, from which an unusually large quantity of bitter orange oil was produced, accounts for the low prices of this article. They predict that the production of oil will be much smaller in the coming winter, and that therefore the prices will rise.

Heinrich Haensel (Half-Yearly Report, April, 1908, pp. 24-25) points out that the determination of the optical rotation of different batches of terpeneless orange oil showed marked differences, which can only be explained by the fact that there are numerous varieties of sweet orange and they must give oils of different composition, whilst locality of growth and soil are also possibly influencing factors. As a proof of the correctness of this assumption, he is able to mention that the sweet orange oil obtained in Spain differs from that produced in Sicily or Calabria even more than the Italian products amongst themselves. The terpeneless Spanish sweet orange oil also polarizes to the right, but much more strongly than oil of Italian origin. For instance, the Spanish oil has a rotation of $+23.08^\circ$, whilst the Italian only rotates $+15.50^\circ$.

OLEUM BETULÆ.

Bennett, C. T., in discussing the B. P. C., asserts that in his experience the specific gravity of oil of betula usually falls between 1.179 and 1.187 (15.5° C.). The proportion of methyl salicylate is best estimated by saponification under a reflux condenser. It is usually about 99 per cent. The oil is soluble in six volumes of 70 per cent alcohol at 25° C.—*Pharm. J., Lond.*, 1908, v. 27, p. 622.

Pearson, W. A., believes that more efficient tests for artificial methyl salicylate are needed and that tests for orthocresol and metacresol, which may be present in synthetic products, might aid in the detection.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 77.

The Bureau of Chemistry reports an investigation of the production of oil of birch, and finds that this article is frequently adulterated by addition of synthetic methyl salicylate.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 432.

Smith, Kline & French Co. (Analytical Report, 1908, p. 26) report that all of the 18 samples of oil of betula examined by them were of U. S. P. quality.

OLEUM CADINUM.

Schimmel & Co. (Semi-Annual Report, November, 1908, pp. 24-28) call attention to a contribution on the production and examination of cade oil by C. Pépin. Also call attention to articles by C. Pépin, N. Lepeschkin, and L. Schindelmeiser on the origin, composition, and properties of oil of cade.

Dohme and Engelhardt point out that the requirements of the U. S. P. for oil of cade are rather too lenient, and, consequently, preparations grossly adulterated easily escape detection.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 819.

OLEUM CAJUPUTI.

Baker, Orlando H., reports from Sydney that it has recently been demonstrated that cajuput oil, supposed heretofore to be exclusively a product of Java, exists in one of the trees of New South Wales, Australia, known commonly as "ti-tree" (*Melaleuca uncinata*). The oil exists in globules in the leaves and is easily extracted.—Oil, Paint, and Drug Reporter, New York, 1908, v. 73, April 6, p. 10.

Baker and Smith (Proc. roy. Soc. N. S. Wales, Sydney, December, 1907) report an investigation of two species of *Melaleuca*; *M. uncinata*, R. Br. and *nodosa*, Sm., and their essential oils.—Bot. Centralbl. Cassel, 1908, v. 108, p. 239.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 137), in discussing the B. P. C. requirements for cajuput oil, assert that 0.919 would be more nearly correct as the minimum limit for specific gravity, and that they have observed in authentic oils a rotation up to $-3^{\circ} 40'$.

Bennett, C. T., in discussing the B. P. C., asserts that the specific gravity of pure oil of cajuput often falls as low as 0.919 (15.5° C.), as pointed out by J. C. Umney. A minimum of 0.915 (15° C.) is adopted in the Russian and Italian pharmacopœias.—Pharm. J., Lond., 1908, v. 27, p. 622.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 129), in discussing the Ph. Helv. IV requirements for rectified cajuput oil, assert that they have observed a rotatory power up to $-3^{\circ} 40'$, and point out that the requirement as to its solubility in carbon disulphide is unnecessary.

Bennett, C. T., reports some comparative results on the determination of cineol by the resorcinol method and by the phosphoric acid method. The former gave results that were evidently high, while

the latter gave results that were thought to be lower than the true value.—Chem. & Drug., Lond., 1908, v. 72, p. 55.

Gane and Webster assert that cajuput oil, as found on the market, is of very variable quality, and almost always contains traces of copper. Three samples reported on had a cineol content of 35, 52, and 70 per cent, respectively. The demand for this oil they believe is very small.—Drug Topics, New York, 1908, v. 23, p. 308.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 18-19) assert that the interest in cajuput oil diminishes from year to year. The quantities of this oil shipped from Macassar from 1905-1907 are reported.

Smith, Kline & French Co. (Analytical Report, 1908, p. 27) report that the cineol content of the 4 samples of oil of cajuput examined by them ranged from 45 to 81 per cent.

Lehn & Fink (Annual Report for 1908, p. 19) report the specific gravity, optical rotation, solubility, and cineol of 2 samples of oil of cajuput, neither of which was strictly U. S. P. One sample contained copper.

Blome, Walter H., reports on a sample of oil of cajuput below standard.—Proc. Michigan Pharm. Ass., 1908, p. 94.

An unsigned article asserts that oil of cajuput, although official in the U. S. P., is but little used in this country, and points out some of the medicinal uses to which it may be put.—Critic and Guide, N. Y., 1908, v. 11, p. 15.

OLEUM CARI.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 137-138), in commenting on the B. P. C. requirements for caraway oil, assert that generally the rotation does not exceed $+80^\circ$, and point out that in determining the boiling point the kind of boiling flask should be described in detail, that the whole of the mercury column of the thermometer should be played upon by the vapors of the liquid, and that regard must be had to barometric pressure.

Bennett, C. T., in discussing the B. P. C., asserts that the specific gravity should not fall below 0.910 at 15° C. A lighter oil would be deficient in carvone. The optical rotation rarely exceeds $+80^\circ$.—Pharm. J., Lond., 1908, v. 27, p. 623.

Lehn & Fink (Annual Report for 1908, p. 19) report the specific gravity, optical rotation, and solubility of 1 sample of oil of caraway examined by them. The specific gravity was within the limits given in the first edition of the U. S. P. VIII.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 26-27) discuss the caraway market, and (*Ibid.*, November, 1908, pp. 39-40) discuss the cultivation of caraway in Holland.

OLEUM CARYOPHYLLI.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 139), in discussing the B. C. P. requirements for clove oil, assert that 1.04 would be better as the lower limit for specific gravity, and that in determining the boiling point special directions should be given as to the kind of boiling flask used, and that it should be stated that the mercury column of the thermometer should be wholly in the steam; also regard should be paid to barometric pressure.

Bennett, C. T., in discussing the B. P. C., asserts that the specific gravity of a genuine distillate occasionally falls as low as 1.047 (15.5°).—Pharm. J., Lond., 1908, v. 27, p. 623.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 130), in discussing the Ph. Helv. IV requirements for clove oil, assert that the statement that this oil gives turbid mixtures with carbon disulphide is unnecessary, since all essential oils are soluble in the latter, and all often give turbid mixtures, owing to a certain amount of water that is sometimes present.

The same firm (*Ibid.*, April, 1908, p. 124), in discussing the Ph. Japon. III requirements for clove oil, points out that the requirement as to specific gravity 1.06 to 1.074 is not quite applicable, even in the oils richest in eugenol, as the specific gravity never exceeds 1.07, and that, from the value fixed as lowest limit, only the oils with exceptionally high eugenol content are admitted.

An unsigned article points out that the Ph. Fr. V gives the specific gravity of oil of cloves as 1.055 to 1.068, which excludes many genuine oils. It is soluble in two volumes of 70 per cent alcohol. Freely laevorotatory. At least 80 per cent of eugenol by absorption.—Chem. & Drug., Lond., 1908, v. 73, p. 413.

Schimmel & Co. (Semi-Annual Report, November, 1908, pp. 144-145), in discussing the Ph. Fr. V requirements for clove oil, assert that the specific gravity should not be given as being higher than 1.050; also that a 3 per cent liquor is preferable for the determination of the eugenol content with 95 per cent alcohol, clove oil forms a clear solution in every proportion, and with about 63 per cent alcohol the solution often shows opalescence.

Patch, E. L., found one sample of oil of clove to be a by-product from the manufacture of vanillin; five samples ranged from 1.040 to 1.048 specific gravity, and from 81.5 to 87 per cent eugenol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 772.

Lehn & Fink (Annual Report for 1908, p. 19) report one sample of oil of cloves with a specific gravity of 1.0417, optical rotation -1° , solubility within U. S. P. limits, and eugenol content normal, which was passed as satisfactory.

Smith, Kline & French Co. (Analytical Report, 1908, p. 27) report that one of the samples of oil of cloves examined by them was of

U. S. P. quality; the other was slightly below the required specific gravity.

Woolsey, J. F., reports that one lot of oil of cloves, having a dark color and peculiar odor, was rejected.—Proc. Pennsylvania Pharm. Ass., 1908, p. 83.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 6 samples of oil of cloves examined, which were found to be genuine.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 12) report two samples of clove oil having a specific gravity of 1.049, which is slightly below the Ph. Brit. figure.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 33-35) discuss the clove market from the year 1893 to 1906, giving the amounts exported from various countries each year; also the amounts imported by various countries.

OLEUM CHENOPODII.

Woolsey, J. F., reports that powdered American wormseed yielded a high ash content, from 11 to 15 per cent.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Blome, Walter H., reports on one sample of American wormseed which was a mixture of American and Levant, the former predominating in quantity.—Proc. Michigan Pharm. Ass., 1908, p. 96.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 109-119) discuss the chemical examination of wormseed oil and report the results of examinations conducted by them. Also (*Ibid.*, April, 1908, p. 149) mention wormseed oil, American, as being included in the B. P. C., and give a résumé of the constants required.

Bennett, C. T., in discussing the B. P. C., asserts that the limits for specific gravity and optical rotation given in the U. S. P. have been canceled in an official list of corrections, also the solubility test. Schimmel & Co. have since shown, however, that the oil produced by distilling the crushed fruits alone will comply with those requirements.—Pharm. J., Lond., 1908, v. 27, p. 623.

Gane and Webster point out that the U. S. P. now gives absolutely no tests by which the purity of wormseed oil can be determined, the tests originally inserted having been wholly stricken out in the additions and corrections of May, 1907. Ten samples examined by them varied in specific gravity from 0.955 to 0.977, and in optical rotation from $-4^{\circ} 15'$ to $-6^{\circ} 5'$, though one sample, otherwise apparently a genuine oil, ranged as high as -15° .—Drug Topics, New York, 1908, v. 23, p. 324.

OLEUM CINNAMOMI.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 138), in discussing the B. P. C. requirements for cassia oil, point out that the specific gravity of the crude oil varies from 1.055 to 1.070; of rectified oil from 1.053 to 1.065. Only rectified oil can be guaranteed free from lead.

Bennett, C. T., in discussing the B. P. C., points out that the limit for specific gravity should be extended to 1.070 (15.5° C.). The test for absence of resin as given in the U. S. P. might be included. The lower grades frequently contain resin.—*Pharm. J., Lond.*, 1908, v. 27, p. 623.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 129), in discussing the Ph. Helv. IV requirements for cassia oil, point out that the statement, that if more than 1 volume of 80 per cent alcohol be added an opalescent turbidity occurs, applies to the crude oil; that rectified oil does not become opalescent when the solution is diluted; and that the requirement that when it is heated on a water bath it should not leave more than 8 per cent of residue is only correct so far as the residue of distillation is concerned, not as regards the residue of evaporation.

In discussing the Ph. Japon. requirements for cassia oil (*Ibid.*, April, 1908, pp. 123-124), they point out that this oil is not obtained from the bark, but from the leaves, and occasionally from the branches, and since the Ph. Japon. requires an oil free from lead, only the rectified oil should be employed. The specific gravity of this oil fluctuates between 1.053 and 1.065. The requirement that when cassia oil is evaporated on a water bath the oil must leave more than 8 per cent of residue only applies to the distillation residue, but not to the residue on evaporation.

The Bureau of Chemistry reports that much of the oil of cassia now on the market is contaminated with an undesirable metallic substance, and that it is usually claimed that the oil is "for technical use only."—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 432.

Smith, Kline & French Co. (Analytical Report, 1908, p. 27) report that the 1 sample of oil of cinnamon examined by them contained lead.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 75.

Barnard, H. E., reports on 2 samples of oil of cinnamon examined, having a specific gravity at 20° C. of 1.0612, 1.0615; polarization, +14°, +2.2°; and cinnamic aldehyde, 77.6 and 80 per cent, respectively.—*Rep. Indiana Bd. Health*, 1908, p. 340.

Woolsey, J. F., reports oil of cassia containing added rosin and often contaminated with lead and copper. Easily obtained of high aldehyde content.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 83.

Blome, Walter H., reports on 1 sample of oil of cassia containing considerable lead and copper. Also reports 1 sample of oil of cinnamon below standard.—Proc. Michigan Pharm. Ass., 1908, p. 94.

Gane and Webster point out that oil of cassia is usually shipped in lead containers. All of the samples of this oil examined by them contained lead. Ten samples of the oil reported on varied in specific gravity from 1.048 to 1.067, and in aldehyde content from 70 to 82 per cent. Two of the samples contained resin and two petroleum.—Drug Topics, New York, 1908, v. 23, p. 308.

Lehn & Fink (Annual Report for 1908, p. 20) report the examination of a sample of cinnamon oil with a specific gravity of 1.0544; optical rotation, $+0^{\circ} 42'$; solubility within U. S. P. limits; aldehyde content, normal; which was passed as satisfactory.

Brandel, I. W., discusses the literature relating to oil of cassia and its adulteration during the years 1901 to 1903.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 274-275.

Harvey, T. F., reports that for the aldehyde assay the method of Burgess is most convenient and expeditious (Analyst, 1904, 80).—Chem. & Drug., Lond., 1908, v. 72, p. 904.

OLEUM CINNAMOMI ZEYLONICUM.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 30) point out that Ceylon cinnamon oil is often adulterated with cinnamic aldehyde and eugenol. They report the yearly amounts of cinnamon chips exported from Ceylon from 1904-1907.

Gopaliah, B. (Indian Forester, 34, (2), 88-9, pl. 1) describes the native method of distilling cinnamon oil.—Chem. Abstr., Am. Chem. Soc., 1908, v. 2, No. 14, p. 1982.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 139), in commenting on the B. P. C. requirements for Ceylon cinnamon oil, assert that the specific gravity lies between 1.023 and 1.040; from 2 to 3 volumes of 70 per cent alcohol are required for solution; and that in pure oils the aldehyde content runs from 65 to 76 per cent.

Bennett, C. T., in discussing the B. P. C., says that he has observed the following limits for oil of cinnamon: Specific gravity, 1.022 to 1.038 (15.5° C.); aldehyde content, 65 to 75 per cent. He has examined samples containing up to 85 per cent of aldehydes, but these probably contained artificial cinnamic aldehyde. In the note at the end of the monograph *C. Cinnamon* should read *Cinnamomum cassia*.—Pharm. J., Lond., 1908, v. 27, p. 623.

An unsigned article points out that in the Ph. Fr. V the specific gravity of cinnamon oil is given as 1.024 to 1.040. It is soluble in all proportions in 90 per cent alcohol. Freely laevorotatory. Should contain 65 to 75 per cent of cinnamic aldehyde.—Chem. & Drug., Lond., 1908, v. 73, p. 413.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 11) point out that some of the foreign cinnamon oils, although complying with the tests of the pharmacopœia, contain added aldehyde, and probably leaf oil also. They report the results of a number of examinations of oil of cinnamon and assert that the Ph. Brit. monograph for this oil requires extending and amending.

Brandel, I. W., discusses the literature relating to oil of Ceylon cinnamon that appeared during the years 1901 to 1903.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 273.

Schimmel & Co. (Semi-Annual Report, November, 1908, pp. 41-43) give a detailed report of the examination of 4 samples of Seychelles cinnamon bark oil.

OLEUM COPAIBÆ.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 139-140), in discussing the B. P. C. requirements for copaiba oil, assert that they have observed authentic samples with a specific gravity up to 0.925; the rotation is subject to greater fluctuations, from $-2^{\circ} 20'$ to $-78^{\circ} 48'$. The solubility is occasionally not complete.

Bennett, C. T., in discussing the B. P. C., says he has observed optical rotations as low as -4° in oils derived from Maracaibo balsam, but this is rare for genuine copaiba oil. The limit might be fixed at -5° . Adulteration is being largely practiced owing to the scarcity of copaiba. The requirement, that no reaction should be obtained with the nitric acid test for gurjun balsam, should be insisted upon. Samples of African copaiba are often soluble in an equal volume of absolute alcohol, and the optical rotation is therefore the only reliable test for it.—Pharm. J., Lond., 1908, v. 27, p. 623.

Gane and Webster point out that the solubility of oil of copaiba varies greatly according to the age of the oil. The oil is frequently adulterated with oil from gurjun or African balsam. The specific gravity of 5 samples reported on varied from 0.894 to 0.918 and the optical rotation from $+42^{\circ}$ to $-21^{\circ} 5'$.—Drug Topics, New York, 1908, v. 23, pp. 308-309.

Smith, Kline & French Co. (Analytical Report, 1908, p. 27) report examining 6 samples of oil of copaiba: one had an optical rotation of $+2^{\circ} 48'$ and was abnormal in solubility. Two others were abnormally soluble.

Lehn & Fink (Annual Report for 1908, p. 20) examined a sample of oil of copaiba which had a specific gravity of 0.8950 and optical rotation of -10° , which was passed as satisfactory. They think that the angle of rotation should be included in the official test.

OLEUM CORIANDRI.

Miller, A. W., presents a communication on the distillation of oil of coriander.—Am. J. Pharm., Phila., 1908, v. 80, pp. 15-16.

Bennett, C. T., in discussing the B. P. C., says that he has observed the following limits: Specific gravity 0.872 to 0.874 (15.5° C.) ; optical rotation +2° to +9°.—Pharm. J., Lond., 1908, v. 27, p. 623.

Smith, Kline & French Co. (Analytical Report, 1908, p. 27) report that one of the 4 samples of coriander examined by them was abnormal in solubility.

Lehn & Fink (Annual Report for 1908, p. 20) examined a sample of oil of coriander with a specific gravity of 0.8644, optical rotation +11° 58', and solubility in accordance with the U. S. P., which was passed as being satisfactory.

Schimmel & Co. (Semi-Annual Report, Nov., 1908, p. 48) report that, owing to the unfavorable condition of the coriander crop in Russia, the prices have risen and that the supplies for the coming season will be obtained chiefly from Moravia and Hungary.

OLEUM CUBEBAE.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 140), in discussing the B. P. C. requirements for cubeb oil, point out that the specific gravity lies between 0.915 and 0.930, and the lowest limit of rotation is -25°. They think that special instructions as to the kind of boiling flask to be used, barometric pressure, etc., should be given in regard to the determination of the behavior on distillation.

Bennett, C. T., in discussing the B. P. C., asserts that he has observed the following limits: Specific gravity, 0.918 to 0.928 (15.5° C.) ; optical rotation, -28° to -35°.—Pharm. J., Lond., 1908, v. 27, p. 623.

Lehn & Fink (Annual Report for 1908, p. 20) report a sample of oil of cubeb with a specific gravity of 0.9145 and optical rotation of -25°, which was passed as satisfactory.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 15) report examining 7 samples of cubeb oil with the following figures: Specific gravity, 0.918 to 0.930; optical rotation, -29° to -42°. Most of them were soluble in an equal volume of 90 per cent alcohol, became turbid with more, and finally dissolved in about 5 volumes.

OLEUM ERIGERONTIS.

Schneider, Albert, asserts that *Erigeron canadense* L. is a very common weed in California.—Pacific Pharmacist, 1908-9, v. 2, p. 84.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 141), in discussing the B. P. C. requirements for erigeron oil, assert that the requirement of the U. S. P., rotation not below +45°, is more nearly correct.

Gane and Webster report on one sample of oil of erigeron having a specific gravity of 0.869; optical rotation, +63°, and soluble in an equal volume of 90 per cent alcohol.—Drug Topics, New York, 1908, v. 23, p. 309.

OLEUM EUCALYPTI.

Kremers, Edward, gives some account of the production of oil of eucalyptus in southern California, also records the examination of some of the Californian oils.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 177-184.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 67) call attention to a contribution to the knowledge of Australian eucalyptus oil by Baker. A discussion of the properties of the oil of *Eucalyptus rudderi* by J. H. Maiden, is reproduced.

In discussing the B. P. C. requirements for eucalyptus oil (*Ibid.*, Apr., 1908, p. 141) they point out that the specific gravity and rotation prescribed exclude oil from *Eucalyptus amygdalina*.

Bennett, C. T., in discussing the B. P. C., asserts that Ph. Brit. oils are generally soluble in 3 volumes of 70 per cent alcohol. In the eucalyptol determination by the phosphoric acid process the pressed magma should be decomposed by *cold* water, and allowed to stand 12 hours in a graduated tube. Satisfactory oils usually contain 55 to 70 per cent of eucalyptol. In his opinion the phosphoric acid method is the best yet devised, but strong pressure is necessary.—Pharm. J., Lond., 1908, v. 27, p. 623.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 124), in discussing the Ph. Japon. III requirements for eucalyptus oil, point out that the specific gravity is stated to be from 0.90 to 0.93.

An unsigned article points out that the Ph. Fr. V adopted the Ph. Brit. specific gravity for oil of eucalyptus; 0.910 for the minimum limit. The upper limit is 0.930. The oil is to be dextrorotatory, which excludes many of the very finest oils. Excess of phellandrene is guarded against, but no quantitative determination of cineol is given.—Chem. & Drug., Lond., 1908, v. 73, p. 413.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 145), in commenting on the Ph. Fr. V requirements for eucalyptus oil, point out that the oil is sometimes colorless or slightly greenish, that the rotation is up to $+15^\circ$, and that the turbidity of the carbon disulphide solution, which usually occurs, is to be attributed to the presence of water.

Bennett, C. T., discusses the determination of cineol in eucalyptus and cajuput oils. The process of estimation given in the U. S. P., he finds, gives results that are invariably too low.—Drug Topics, New York, 1908, v. 23, pp. 35-69.

Schimmel & Co. (Semi-Annual Report, Apr., 1908, pp. 50-54) outline methods for the determination of cineol in eucalyptus oil which are said to be applicable to both normal and abnormal oils. The results obtained by the various methods are presented in the form of a table.

Wiegand and Lehmann discuss the determination of cineol in oils of eucalyptus, report a number of experiments, and conclude that the resorcin method yields satisfactory results with oils that are rich in cineol but that with oils that contain appreciable quantities of oxygenated constituents the results are usually low.—*Chem. Ztg.*, Cöthen., 1908, v. 32, pp. 109–110.

Bennett, C. T., finds that the resorcin method for determining the cineol content of eucalyptus oil gives results that are uniformly high. He recommends fractionation as a useful method of checking the result.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 55.

Gane and Webster assert there is a very wide variation in the quality of the eucalyptus oil of commerce. Five samples of this oil reported on by them varied in specific gravity from 0.910 to 0.917, in optical rotation from $+1^{\circ} 5'$ to $+5^{\circ}$, and in cineol content from 36 to 75 per cent.—*Drug Topics*, New York, 1908, v. 23, p. 309.

Dohme and Engelhardt report on a sample of oil of eucalyptus having a rotation of -21° instead of "not more than $+10^{\circ}$."—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 819.

Blome, Walter H., reports on 8 samples of oil of eucalyptus assaying from 55 to 93 per cent cineol by U. S. P. method. The method is open to criticism. Two others below standard. One was without eucalyptol.—*Proc. Michigan Pharm. Ass.*, 1908, p. 94.

Smith, Kline & French Co. (Analytical Report, 1908, p. 27) report that only 1 of the 2 samples of oil of eucalyptol examined by them was of U. S. P. quality; the other had an optical rotation of $-1^{\circ} 42'$, instead of being dextrogyrate.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 76.

Lehn & Fink (Annual Report for 1908, pp. 20–21) passed a sample of oil of eucalyptus as satisfactory which had a specific gravity of 0.9193, optical rotation of $+0^{\circ} 25'$, solubility according to U. S. P. VIII, and normal cineol content.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 16) report that of all the samples of eucalyptus oil examined by them during the year, only 3 failed to satisfy the requirements of the pharmacopœia. These contained much phellandrene and possessed a lævoration of 50° . Forty samples tested between 52 and 86 per cent of cineol. A sample from the Transvaal compared favorably with the Australian oil.

Freeman, Albert H., discusses the use of oil of eucalyptus in the treatment of hookworm. He recommends the use of an emulsion of eucalyptus oil, 2.5 gm.: chloroform, 3.5 gm.; castor oil, 40 gm.; as suggested by L. P. Phillips, in the *Lancet* of February 3, 1906. Phillips recommends that about 6 p. m. the patient take a purge of some saline, then fast all night. Next morning, while still fasting, he has

the patient take half of the above mixture, and in half an hour's time the other half.—Merck's Arch., N. Y., 1908, v. 10, p. 10.

OLEUM FENICULI.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 141-142), in discussing the B. P. C. requirements for fennel oil, assert that the lowest specific gravity is 0.965 at 15°, that normal fennel oil has a rotation of less than +12°, and that, in making the test for the solidifying point, cooling must not be done to too low a temperature, the best being +3°.

Bennett, C. T., in discussing the B. P. C., says that he has observed the following limits for pure oils: Specific gravity, 0.960 to 0.988 (15.5° C.); rotation, +12° to +14°. As in the case of anise oil, the melting point should be taken as a physical constant instead of the solidifying point. It should not fall below +5° C.—Pharm. J., Lond., 1908, v. 27, p. 623.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 130), in discussing the Ph. Helv. IV requirements for fennel oil, assert that, under certain conditions, fennel oil may be cooled to a considerable degree without solidifying, and that in such cases solidification should be induced by the introduction of a little solid anethol. They also point out that all essential oils which are soluble in carbon disulphide are liable to give a turbid solution, owing to the sometimes unavoidable amount of water present.

In discussing the Ph. Japon. III requirements for fennel oil (*Ibid.*, April, 1908, p. 124), they point out that, instead of the requirement that "when cooled to 0°, fennel oil separates off crystals which melt again at +5°," it would have been better to have given a definite solidifying point, which should not lie below +4°. Solidification must occasionally be started by inoculation with a little solid anethol, as fennel oil can sometimes be strongly cooled without solidifying.

Smith, Kline & French Co. (Analytical Report, 1908, p. 27) report that 1 of the 2 samples of oil of fennel examined by them was of U. S. P. quality; the other had a congealing point of -1.5° C., which is too low.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 76.

Lehn & Fink (Annual Report for 1908, p. 21) assert that it is impossible to secure a sample of fennel oil with a congealing point of +5° C., and think that the official standard will have to be lowered to +3°. They tabulate the results of their examination of 10 samples, the congealing point of which varied from -11° to +4° C.

Gane and Webster report on 1 sample of fennel oil which had a specific gravity of 0.960, congealed at 38° F., and showed a high percentage of anethol.—Drug Topics, New York, 1908, v. 23, p. 309.

Schimmel & Co. (Semi-Annual Report, November, 1908, pp. 70-71) point out that fennel oil evaporates slowly and incompletely, as the anethol contained in it volatilizes with great difficulty, and, during the heating, products of polymerization are formed which do not volatilize at all, leaving considerable residue.

OLEUM GAULTHERIÆ.

Holm, Theo., presents a description, with illustrations, of *Gaultheria procumbens*, L.; also describes the structural characteristics of the various parts of the plant.—Merck's Rep., N. Y., 1908, v. 17, pp. 1-3.

Farwell, A. O., asserts that the leaves of wintergreen constitute the official drug; this is often adulterated with the stems and roots, the whole plant being pulled up by the roots when gathered.—*Ibid.*, 1908, v. 17, p. 35.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 149), in discussing the B. P. C. requirements for natural wintergreen oil, point out that this oil frequently has a reddish-brown color due to traces of iron, and that at 15° the specific gravity runs from 1.180 to 1.188.

Bennett, C. T., in discussing the B. P. C., asserts that the greater part of the "wintergreen oil" of commerce is derived from *Betula lenta*, which is identical with the true gaultheria oil with the exception of the optical rotation, betula oil being inactive. An admixture with 10 to 15 per cent of artificial methyl salicylate may be detected by an experienced nose when compared with the natural product.—Pharm. J., Lond., 1908, v. 27, p. 623.

Gibbs, H. D., found the solubility of methyl salicylate in water at 30° C. to be 0.074 gm. in 100 cc.—Philippine J. Sc., 1908, v. 3, A., pp. 357-359.

Pancoast and Pearson (Am. J. Pharm., 80, 407-12) discuss tests for synthetic methyl salicylate in oils of birch and gaultheria.—Chem. Abstr. Am. Chem. Soc., 1909, v. 3, No. 3, p. 356.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 109) point out that owing to the new food and drugs act the demand for natural wintergreen oil in the United States remains very brisk and the high prices continue.

Pancoast and Pearson assert that at present there is only one-tenth enough wintergreen leaves harvested to make the amount of oil that is actually sold, and ask: Where does the rest come from?—Am. J. Pharm., Phila., 1908, v. 80, p. 218.

The Bureau of Chemistry reports an investigation of the conditions existing in the region where oil of wintergreen is produced, and finds that very little genuine oil of wintergreen is now on the market. With few exceptions, the article sold to the trade is spu-

rious, consisting of oil of birch or mixtures of oil of birch and methyl salicylate. Some producers claim that the manufacture of genuine oil at present prices is an impossibility.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 432.

Beringer, George M., expresses the belief that as oil of gaultheria is very rarely obtainable, oil of betula should be substituted for it in the official formulas requiring this flavoring ingredient.—Am. J. Pharm., Phila., 1908, v. 80, p. 436.

Kahn, Joseph, asserts that oil of gaultheria is usually labeled "Oil of Wintergreen, True," to distinguish it from the synthetic methyl salicylate. Oil of sweet birch (*Betula*) is often sold to the retailer as an equivalent for oil of gaultheria, but it is not very often so labeled.—Proc. New York Pharm. Ass., 1908, p. 224. (See also Merck's Rep., N. Y., 1908, v. 17, p. 213.)

An editorial asserts that probably 90 per cent of the sales of wintergreen oil are either of birch oil or of the synthetic article.—Drug Topics, New York, 1908, v. 23, p. 162.

Smith, Kline & French Co. (Analytical Report, 1908, pp. 27–28) report examining 8 samples of oil of wintergreen; they were mainly mixtures of oil of birch and synthetic methyl salicylate, or oil of birch alone. Some samples probably contained true oil, but it is asserted that it is impossible to obtain an authentic supply and, further, that the total amount of wintergreen leaves gathered is sufficient to produce only a small fraction of the total amount of oil of wintergreen sold.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 76.

Engelhardt and Jones report that 3 of the 4 samples of natural oil of wintergreen examined by them contained phenol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 868.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 42 samples of oil of wintergreen, 2 of which were below standard.

Barnard, H. E., reports on 3 samples of oil of wintergreen examined, which had a specific gravity at 20° C. of 1.179, polarization 100 mm. tube, —0.5, —0.0, —0.0, respectively. The last 2 were synthetic products.—Rep. Indiana Bd. Health, 1908, p. 342.

Dohme and Engelhardt report that natural oil of wintergreen occasionally shows too deep a color.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 819.

The committee on drug market points out that in view of the trade conditions surrounding oil of wintergreen, the statements of the variations in therapeutic action of methyl salicylate, oil of birch, and oil of wintergreen make most interesting and amusing reading.—*Ibid.*, 1908, v. 56, p. 766.

OLEUM GOSSYPII SEMINIS.

An editorial note points out that in the great cotton belt of the South there are 848 mills engaged in crushing cotton seed for its oil and other products. In these mills are 2,608 presses, and in connection with them 2,752 ginstands and 3,126 linters. It is estimated that in the production of cottonseed oil and by-products more than \$85,000,000 is invested. The mills annually use about 4,000,000 tons of seed, costing about \$60,000,000. When made into oil, cake hulls, and linters and other products, its value is about \$90,000,000. At the present time but little more than half the total seed product of the country is crushed.—Paint, Oil, and Drug Review; Chicago, 1908, v. 46, July 15, p. 10.

Sprinkmeyer, H., confirms the frequently made observation that the rancidity of cottonseed oil materially influences its reaction with the Halphen test. He reports an oil which in the course of 3 years became quite inactive to this test.—Ztschr. f. Unters. Nahr. u. Genusssm., 1908, v. 15, pp. 19–20.

Fulmer and Manchester discuss the effect of heat upon the physical and chemical constants of cottonseed oil, and conclude that while the heating of cottonseed oil does change in some degree its physical and chemical constants the changes are not sufficiently great to furnish a means of determining whether or not heat has been applied to it, because of the wide limits of these constants in normal unheated oils.—J. Am. Chem. Soc., 1908, v. 30, pp. 1477–1478.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report that all of the 15 samples of oil of cotton seed examined by them were of U. S. P. quality except 1, which had an iodine number above the limit.

Lythgoe, Hermann C., reports that 2 samples of cottonseed oil were found to be adulterated. One of these samples contained 70 per cent cottonseed oil and the other 15 per cent.—Rep. Massachusetts Bd. Health, 1908, p. 605.

OLEUM HEDEOMÆ.

Holm. Theo., describes, with illustrations, the flowering tops of *Hedcoma pulegioides* Pers. Also the internal structure of the vegetative organs.—Merck's Rep., N. Y., 1908, v. 17, pp. 115–116.

Hood, S. C. (Vermont Sta. Rpt., 1907, pp. 371–386) reports that the culture of pennyroyal is not likely to prove profitable in Vermont.—Exp. Sta. Rec., 1908–9, v. 20, p. 335.

Farwell, A. O., asserts that the leaves and tops of pennyroyal should be collected during the flowering season in summer. Large quantities that are practically worthless have been offered upon the market. These lots evidently were collected late in the fall, as the

plants were fully matured, most of the leaves having fallen off, leaving nothing but coarse stems and ripened pods.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Pearson, W. A., points out that pure oil of hedeoma may have an optical rotation as high as $+25^{\circ}$, and that the maximum rotation $+22$ of the Pharmacopœia might well be raised 3° .—Am. J. Pharm., Phila., 1908, v. 80, p. 77.

Schimmel & Co. (Semi-Annual Report, November, 1908, pp. 67-68) point out that although the usual adulterant of European oil of pennyroyal is oil of turpentine, it is also adulterated with oil of eucalyptus. A method for detecting this adulterant is given.

Gane and Webster assert that owing to the fact that hedeoma oil has little medicinal use it is often adulterated; turpentine, petroleum, or some other cheap adulterant being added. They report on 8 samples, of which 2 were obviously sophisticated. The remaining samples varied in specific gravity from 0.918 to 0.937 and in optical rotation from $+12^{\circ}$ to $+24^{\circ}5'$.—Drug Topics, New York, 1908, v. 23, p. 309.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report that only 3 of the 16 samples of oil of hedeoma examined by them were of U. S. P. quality; 3 were abnormal in physical appearance and odor, 6 were not sufficiently soluble in 70 per cent alcohol, and 12 were abnormal in optical rotation.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 76.

Lehn & Fink (Annual Report for 1908, p. 22) point out that it is extremely difficult to secure samples of oil of hedeoma within the official requirements. Of 11 samples examined by them, only 2 were strictly U. S. P. They tabulate the results of the analyses of these 11 samples.

Patch, E. L., asserts that American oil of pennyroyal has been out of the market for a time. Four market samples had an average specific gravity of 0.9225; optical rotation, from $+19^{\circ}$ to 31° . All were soluble in 2 volumes of 70 per cent alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 772.

OLEUM JUNIPERI.

Dohme and Engelhardt point out that the requirements of the U. S. P. for oil of juniper are rather too lenient, and consequently preparations grossly adulterated may easily escape detection.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 819.

Heusler, P. L., thinks the U. S. P. requirements should be more stringent, as the oil, even when grossly adulterated with oil of turpentine, will pass the test.—Proc. Maryland Pharm. Ass., 1908, p. 35.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 142), in dis-

cussing the B. P. C. requirements for juniper oil, point out that the specific gravity of this oil is 0.860, and that newly distilled oils give a clear solution with 90 per cent alcohol, but the solubility decreases very rapidly. Nonadulterated oils have a higher rotatory power occasionally than that given in the B. P. C.

Bennett, C. T., in discussing the B. P. C., points out that the lower limit for specific gravity should be reduced to 0.860 (15.5° C.) and the optical rotation extended to -10° .—*Pharm. J., Lond.*, 1908, v. 27, p. 623.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 130), in commenting on the Ph. Helv. IV requirements for juniper oil, assert that they have observed higher rotations than -11° , and that, as a rule, only quite fresh distillates are soluble in 10 parts of 90 to 91.29 per cent alcohol.

In discussing the Ph. Japon. requirements for oil of juniper berries (*Ibid.*, April, 1908, p. 124), they point out that the specific gravity should be between 0.860 to 0.885, and that the alcoholic solution is occasionally clear. Cloudiness, which is sometimes observed in the solution of the oil in carbon disulphide, must be attributed to the slight unavoidable content of water due to manufacture.

An unsigned article points out that in the Ph. Fr. V the specific gravity of oil of juniper is given as 0.865 to 0.885. Gives a turbid solution with 5 volumes of 95 per cent alcohol.—*Chem. & Drug., Lond.*, 1908, v. 73, p. 413.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 145), in commenting on the Ph. Fr. V requirements for juniper berry oil, assert that the specific gravity at 15° of commercial oils is sometimes down to 0.860, that freshly distilled oils form a clear solution with 5 to 10 volumes of 90 per cent alcohol, but the solubility diminishes very soon, and that a possible turbidity of the carbon disulphide solution must be attributed to the slight content of water from the manufacture of the oil.

Gane and Webster assert that juniper oil is usually a most unsatisfactory product, owing to its varying solubility. Additions of turpentine can not be directly proven, as pinene is a normal constituent of the oil. The specific gravity of 4 samples varied from 0.854 to 0.862, and all of the samples were insoluble in 10 volumes of 90 per cent alcohol.—*Drug Topics, New York*, 1908, v. 23, p. 309.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report examining 2 samples of oil of juniper, both of which were of U. S. P. quality. One was not soluble in 10 parts of 95 per cent alcohol. (See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 76.)

Lehn & Fink (Annual Report for 1908, p. 22) report that a sample of juniper oil examined by them, having a specific gravity of 0.8653 and optical rotation of $-7^{\circ} 17'$, was passed as satisfactory.

Harris, A. E., reports one sample of oil of juniper examined; adulterated.—Pharm. J., Lond., 1908, v. 27, p. 69.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 21) report the results of their examination of 19 samples of juniper oil. The specific gravity varied from 0.865 to 0.870 and the optical rotation $-7^{\circ} 30'$ to $-16^{\circ} 30'$.

OLEUM LAVANDULÆ FLORUM.

Mitlacher, Wilhelm, describes and illustrates some of the structural characteristics of *Lavandula vera*.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 3.

Schneider, Albert, asserts that lavender is easily cultivated in California. The grower should also manufacture the oil, which is obtained from the fresh flowers and entire fresh plants. *Lavandula spica* (spike lavender) is also cultivated for the oil which it yields. Medicinally the lavender oil and the pharmaceutical preparations made from the flowers are used in flatulence, as a carminative, in nervous headache, etc.—Pacific Pharmacist, 1908-9, v. 2, p. 242.

Rusby, H. H., found one shipment of lavender flowers dyed blue.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

Schimmel & Co. (Semi-Annual Report, Apr., 1908, pp. 62-66) discuss the lavender oil market. They assert that so-called Spanish lavender oils have been put on the market as French oils; the former seem to be a different oil entirely.

They also (*Ibid.*, Nov., 1908, pp. 74-80) discuss in detail the manner of cultivation and distillation of the different varieties of lavender. Attention is called to a criticism, by Visser, of the Ph. Ndl. requirements for this oil and by Grieb of the Ph. Brit. requirements.

The Revue de Grasse (51, 1908, Nos. 28 and 32) directs attention to the efforts being made to stimulate the interest in the lavender cultivation in the south of France, and refers with great enthusiasm to a pamphlet published by L. Lamothe, which aims at keeping alive and stimulating this interest, and of which a second edition (1908) has just appeared.—Proc. Am. Pharm. Ass., 1909, v. 57, p. 173.

Gane and Webster assert that the U. S. P. constants are useless for determining the value of lavender oil, and there is a wide variation in different samples as regards odor. Lavender oil is frequently adulterated, and much of it is of very poor grade and quite unsuitable for pharmaceutical purposes.—Drug Topics, New York, 1908, v. 23, p. 309.

Visser, H. L., reports a comparative study of a number of samples of oil of lavender. The specific gravity of 5 samples varied from 0.880 to 0.920, the linalyl acetate from 23.6 to 38.9 per cent, and the

optical rotation from -3.60° to -13.50° .—Pharm. Weekblad, 1908, v. 45, pp. 1213-1215.

Schimmel & Co. (Semi-Annual Report, Apr., 1908, p. 142), in discussing the B. P. C. requirements for lavender oil, point out that commercial oils often have a rotatory power as low as -3° and that French oils with an ester content of less than 30 per cent are mostly adulterated; good oils may have even more than 40 per cent of linalyl acetate.

Bennett, C. T., in discussing the B. P. C., asserts that the specific gravity of the English oil is sometimes as low as 0.882 (15.5° C.), and the ester content may reach 11 per cent. The ester content of the French oils is frequently as high as 42 to 43 per cent, but artificial esters, such as ethyl succinate and citrate, should be looked for. A paragraph might be devoted to the characters of *spike oil* from *Lavandula spica*. Specific gravity, 0.905 to 0.921 (15.5° C.). Rotation, -2° to $+4^{\circ}$. Esters, 4 to 7 per cent. Total alkaloids calculated as borneol, 25 to 38 per cent. This oil is imported in large quantities from France and Spain, but the Spanish oils are usually inferior in quality.—Pharm. J., Lond., 1908, v. 27, p. 623.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 130), in discussing the Ph. Helv. IV requirements for lavender oil, assert that the latter is only soluble in 3 volumes of alcohol, which is near 69.34 per cent by volume when the temperature of observation is from 18° to 20° , and that even under these conditions oils with a high ester content are not always soluble in 3 parts of the spirit, the solutions being frequently opalescent and in samples which are rich in ester this opalescence persists even when more alcohol is added.

They also (*Ibid.*, April, 1908, p. 124) point out that the Ph. Japon. III requires that lavender oil be colorless or yellow; specific gravity of from 0.885 to 0.900 at 15° ; that it be soluble in 3 parts of dilute alcohol and contain at least 29.5 per cent of linalyl acetate.

An unsigned article points out that in the Ph. Fr. V many of the best lavender oils are excluded by the requirement that the ester value should be at least 30 per cent. Fine oils distilled on the Italian frontier contain only 25 to 28 per cent of esters. The specific gravity is 0.882 to 0.895. It is soluble in three volumes of 70 per cent alcohol.—Chem. & Drug., Lond., 1908, p. 73, pp. 413-414.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 145), in discussing the Ph. Fr. V requirements for lavender oil, point out that the cloudiness in the carbon disulphide solution is due to the presence of water in the oil, and disappears immediately if a water abstracting agent is added.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report that while all of the 5 samples of oil of lavender flowers examined by them were of U. S. P. quality 2 were low in linalyl

acetate, containing only 11.01 per cent and 20.37 per cent. It is asserted that a good oil should contain at least 30 per cent.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 76.

Grieb, C. M. W., reports on a quantity of English lavender oil of exceedingly fine aroma but having abnormal characters: Specific gravity, at 15° C., 0.8798; optical rotation, -9.1° ; percentage of ester, 6.5; quite insoluble in three times its volume of alcohol, 70 per cent, and hardly dissolving in ten times its volume. He thinks the official specific gravity should be reduced.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 537.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 22) report that no sample of spike oil examined by them gave figures outside the accepted limits. Nine samples gave the following results: Specific gravity, 0.911 to 0.916; optical rotation, to $+4^{\circ} 30'$; alcohols (as linalol), 27 per cent and upward; ester (as linalyl acetate), 2.3 to 5 per cent.

Delphin, T., calls attention to a new adulterant found in oil of lavender, consisting of succinic acid ethyl ester, and outlines methods for its detection.—*Svensk. farm. Tidskr.*, 1908, v. 12, pp. 425-429.

OLEUM LIMONIS.

Schimmel & Co. (*Semi-Annual Report*, April, 1908, pp. 40-45, and November, 1908, pp. 54-57) discuss in detail the lemon-oil market, giving reasons for the unusually low prices of this substance. They call attention to the stopping of a quantity of this oil in New York which was refused entrance to the United States because it did not answer the requirements of the U. S. P., and which was later admitted, when it was discovered that the requirements of the U. S. P. were not correct.

Heinrich Haensel (*Half-Yearly Report*, April, 1908, p. 18, and October, 1908, pp. 21-22) discusses the market conditions of oil of lemon and calls attention to the work by Berte and Romeo, and to recent legislation in Italy, bearing on citrus products.

The *Pharm. J.*, Lond. (1908, v. 27, p. 466), quotes from the Board of Trade Journal a report of the British vice consul at Messina on the Sicilian citrus by-products law.

Moerk, Frank X., points out that the factor for citral, given in the U. S. P., is obviously based on $O=16$; based on $H=1$, it should be 0.037745.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 900.

Gane and Webster point out that the assay of oil of lemon for citral is a very difficult process and no accurate method has as yet been devised. The U. S. P. process is practically unworkable. Five samples examined by them varied in specific gravity from 0.849 to 0.853 and in optical rotation from $+54^{\circ} 25'$ to $+61^{\circ} 25'$.—*Drug Topics*, New York, 1908, v. 23, p. 325.

Bruylants. P., discusses the estimation of citral in essence of lemon.—Ann. de chim. analyt., Par., 1908, v. 13, pp. 91–97.

Baer, Samuel H., discusses the analysis of citral in terpeneless extract of lemon.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 229. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122; see also report of referee, pp. 32–35.)

An unsigned article discusses several methods for determining citral in lemon oil.—Drug Topics, New York, 1908, v. 23, pp. 66–67.

Lehn & Fink (Annual Report for 1908, p. 23) assert that the official method for the determination of citral in oil of lemon is of doubtful practicability, that the specific gravity is probably too high, and that more specific directions should be given relative to the distillation of the oil.

Chace, E. M., discusses the detection of small quantities of turpentine in lemon oil and presents illustrations showing limonene nitroso chloride crystals from lemon oil and pinene nitroso chloride crystals from turpentine.—J. Am. Chem. Soc., 1908, v. 30, pp. 1475–1477.

Heinrich Haensel (Half-Yearly Report, April, 1908, p. 20) quotes the "American Perfumer" as publishing an expression of opinion by Prof. Rosurgi, of Messina, respecting the tests of the U. S. P. for valuation of lemon oil. He considers that the statements of the American Pharmacopœia should be altered to optical rotation 15.5° C., $+57^{\circ}$ to $+63^{\circ}$; specific gravity, 15.5° C., 0.856–0.861; citral contents 3 to 4 per cent. The rotation of the first 10 per cent of distillate should not deviate more than 5 per cent from that of the original oil. The constants of lemon oil vary according to climate and soil. The oils of Palermo, Barcelona, and Mascoli contain the largest quantities of pinene. The question of citral determination is not yet by any means cleared up. The best method is that of Romeo, which depends upon absorption of citral by a mixture of sodium sulphite and potassium bisulphite.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 143), in discussing the B. P. C. requirements for lemon oil, point out that $+58^{\circ}$ is more nearly accurate, as the minimum limit of rotation.

Bennett, C. T., in discussing the B. P. C., points out that the limits for optical rotation should be $+58^{\circ}$ to $+65^{\circ}$ (15.5° C.). The rotation of the first 10 per cent distilled depends entirely on the apparatus used. When distilled *in vacuo*, from a three-bulbed flask, the rotation may be 8° to 10° higher than the original oil. Characters of the terpeneless oil might be included.—Pharm. J., Lond., 1908, v. 27, p. 624.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 131), in discussing the Ph. Helv. IV requirements for lemon oil, point out that, in stating the requirement as to boiling point, it should be made a condition that the whole of the mercury column must be exposed to

the vapors of the liquid. Also, that the residue on evaporation may be as high as 3.5 per cent.

In discussing the Ph. Japon. III requirements for lemon oil (*Ibid.*, April, 1908, p. 124) they point out that the slimy and vegetable wax-like constituents of lemon oil occasionally prevent clear solubility.

An unsigned article points out that, in the Ph. Fr. V, the specific gravity of lemon oil is given as 0.857 to 0.862. This is reasonable. The optical rotation is $+57^{\circ}$ to $+67^{\circ}$, and the difference figure for the first 10 per cent distilled is up to $+5^{\circ}$. This is the best figure that any pharmacopœia has yet given, and will be adopted by the American authorities in the future.—Chem. & Drug., Lond., 1908, v. 73, p. 413.

Schimmel & Co. (Semi-Annual Report, November, 1908, pp. 145-146), in discussing the Ph. Fr. V requirements for lemon oil, assert that pure lemon oils with a rotatory power exceeding $+63^{\circ}$ are very rare; if really reliable results are to be obtained in the distillation of this oil, the use of a Ladenburg flask is recommended. The turbidity of the carbon disulphide solution is due to the presence of water in the oil.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report that all of the 3 samples of lemon oil examined by them were of U. S. P. quality.

Stallman, A. C., found oil of lemon largely adulterated with turpentine and alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 772.

Barnard, H. E., reports on 5 samples of lemon oil examined, 4 of which were pure. One sample did not meet the requirements in any particular, and was evidently a mislabeled article.—Rep. Indiana Bd. Health, 1908, p. 320.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 17 samples of oil of lemon examined, 13 genuine and 4 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 22) examined 40 samples of lemon oil, 3 of which were deficient in aldehyde. Turpentine was found in only 1 sample. They point out that a difference of from 7° to 9° is usually observed between the rotation of the first 10 per cent, distilled under reduced pressure, and that of the original oil. The aldehyde in samples from reliable sources ranged from 3.6 to 4.2 per cent.

McGill, A., reports 45 samples of oil of lemon examined, but the results of analysis do not enable him to arrive at well-defined conclusions regarding them. The characteristics of oil of lemon are so vaguely described in the pharmacopœias, and its composition has been so imperfectly worked out, that there is much difficulty in interpreting the analytical numbers.—Bull. Lab. Int. Rev. Dept. Canada, No. 154, 1908, p. 11.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 45) note several adulterations of oil of lemon recently observed by them. The adulterated oil in 1 instance was a colorless distilled oil, leaving 4.1 per cent of residue on evaporation. In 2 other cases the adulterant was alcohol. A fourth oil, from Hamburg, was found to be adulterated to the enormous amount of 41.0 per cent with paraffin oil. The presence of the latter does not always affect the specific gravity, but causes a lowering of the optical rotation and, of course, increases the residue on evaporation.

OLEUM LINI.

Pearson, W. A., asserts that the solubility of linseed oil in absolute alcohol is given far too high; many samples require over 25 parts for solution.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 77.

Gane and Webster discuss the solubility of linseed oil in alcohol, call attention to some of the published statements, and assert that from their experience it would appear that the solubility of linseed oil in absolute alcohol is, approximately, 1 in 20 at 25° C., and 1 in 27 at 15.5° C.—*Drug Topics*, New York, 1908, v. 23, pp. 244–245.

Haller, A., discusses the alcoholization of linseed oil and points out that it contains the glycerides of myristic, palmitic, oleic, linolic, linolenic, isolinolenic, stearic, and azelaic acids.—*Compt. rend. Acad. d. sc. Par.*, 1908, v. 146, pp. 259–262.

Walker, Percy H., outlines a method for testing linseed oil, enumerates the constants with which oils should comply, and points out some of the adulterants that may be found.—*Bull. Bur. Chem., U. S. Dept. Agric.*, No. 109, pp. 5–8.

Harvey, T. F., reports that the saponification values of most fixed oils are so nearly equal as to be of little service in differentiating them from each other, although, of course, of value in showing freedom from mineral oil, a distinctly uncommon form of adulteration in the official fixed oils. For linseed oil the iodine value is of great service and should never fall much below 170.—*Chem. & Drug., Lond.*, 1908, v. 72, p. 905.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report that all of the 27 samples of linseed oil examined by them were of satisfactory quality but failed to be soluble in about 10 parts of absolute alcohol, as specified in the U. S. P.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 76.

Barnard, H. E., reports on four samples of linseed oil. One contained 25 per cent of petroleum oil.—*Rep. Indiana Bd. Health*, 1908, p. 323.

Lorentz, Ernst, reports on a sample of linseed oil containing 3.73 per cent of unsaponifiable material.—*Chem. Ztg., Cöthen*, 1908, v. 32, p. 819.

Sayre, L. E., reports a sample of linseed oil containing kerosene and suspended vegetable matter.—Bull. Kansas Bd. Health, 1908, v. 4, p. 298.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 107-108) points out that the Ph. Helv. IV describes the cold expressed linseed oil, while the oil included in the Ph. Austr. VIII is that obtained by means of heat.

OLEUM MENTHÆ PIPERITÆ.

Gane and Webster point out that the annual production of peppermint oil in the United States ranges from 80,000 to 100,000 kilos, and that the preparation has for years been manipulated by the sophisticator. Hardly a season passes but what some new adulterant is utilized. They report having met with samples which contained white petroleum oil, and append a table giving the results of their examination of a number of samples of peppermint oil.—Drug Topics, New York, 1908, v. 23, pp. 260-261.

Schimmel & Co. (Semiannual Report, April, 1908, pp. 81-82, and November, 1908, pp. 98-100) discuss the variation in oils of peppermint from different sources. Also present (*Ibid.*, November, 1908, pp. 199-232) a comprehensive review, by Naojiro Inouye, of the history and cultivation of peppermint and the production of peppermint oil and menthol in Japan.

Heikel, G., discusses the possibility of error in the U. S. P. assay process for oil of peppermint and points out that an oil actually containing 9.2 per cent methyl ester (as acetate) and 51.6 per cent total menthol showed, when assayed according to the U. S. P., only 19.6 per cent total menthol.—Am. J. Pharm., Phila., 1908, v. 80, pp. 373-374.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 145), in discussing the B. P. C. requirements of peppermint oil, assert that, when this oil is dissolved in one-half its volume of alcohol, the solution remains clear when more alcohol is added, and that English peppermint oil contains a total of from 51 to 66, American a total of from 48 to 60 per cent of menthol.

Bennett, C. T., in discussing the B. P. C., asserts that American peppermint oil contains from 6 to 9 per cent of esters, and when rectified is soluble in 4 volumes of 70 per cent alcohol, and in all proportions of 90 per cent alcohol without turbidity. English oil is of two kinds, derived from the black and white peppermint, respectively. The finest white mint oils contain 12 to 15 per cent of esters, whereas the black variety rarely contains more than 8 per cent.—Pharm. J., Lond., 1908, v. 27, p. 624.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 132), in discussing the Ph. Helv. IV requirements for peppermint oil, point out that the specific gravity figures indicate that both English and

American oils have been admitted. It is also pointed out that opalescence does not always occur when more than the specified amount of alcohol is added, and that the residue after evaporation is less than 4 per cent; the data, with regard to the amount of alkali required, are inaccurate.

They also (*Ibid.*, April, 1908, p. 125), in discussing the Ph. Japon. III requirements for peppermint oil, point out that only the Japanese oil is official; i. e., the so-called oil from which the menthol has been partly removed. An observation temperature of 20° is said to be more nearly correct.

An unsigned article points out that in the Ph. Fr. V the specific gravity of oil of peppermint is given as 0.895 to 0.920. Soluble in four to five volumes of 70 per cent alcohol, sometimes with opalescence. No optical rotation is given, which allows continental oils to be admitted.—Chem. & Drug., Lond., 1908, v. 73, p. 414.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 147), in discussing the Ph. Fr. V requirements for peppermint oil, point out that this oil is sometimes yellowish or green-yellow.

The Bureau of Chemistry reports that a number of authentic samples of peppermint oil have been collected for the purpose of determining the reliability of the dimethyl sulphide test.—Ann. Rept. U. S. Dept. Agr., 1908, 1909, p. 432.

Patch, E. L., reports on 6 lots of peppermint oil; 4 gave a specific gravity of from 0.899 to 0.9045, from -21° to -27.5° optical rotation, from 52.05 to 60 per cent total menthol, and from 7.08 to 8.93 per cent methyl acetate. The other 2 lots had a specific gravity of 0.899, proved faulty by other tests and were rejected.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 772.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report that 2 of the 3 samples of peppermint oil examined by them did not contain 6 per cent of methyl acetate, as required by the U. S. P.

Lehn & Fink (Annual Report for 1908, p. 24) think that an oil of peppermint can not be prepared which will stand the official tests for sulphur compounds, and outline two experiments performed by them which illustrate this point. The results of their analyses of 3 samples are tabulated.

Parry, E. J., states that large quantities of peppermint oil are being sold, in London and the provinces, which contains white petroleum as an adulterant. Five samples examined varied, in specific gravity from 0.8875 to 0.895, optical rotation from 12° to $14^{\circ} 30'$, menthol from 29 to 31 per cent, and petroleum separated 44 to 49 per cent.—Chem. & Drug., Lond., 1908, v. 72, p. 770.

Baker, V. A., asserts that oil of peppermint is a much-neglected remedy, yet one of the most potent for good and freest from evil of any one remedy in the materia medica.—Tr. Nat. Eclect. M. Ass., 1908, v. 36, p. 95.

OLEUM MENTHÆ VIRIDIS.

The therapeutic committee of the British Medical Association suggests that oleum menthæ viridis be deleted from the Ph. Brit., as it is very little used and unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 99) point out that in America spearmint is now only produced in Michigan, the total production being between 5,000 and 8,000 pounds, and that increased demand for this oil for the manufacture of chewing gum has greatly advanced the price. The constants of the English distillates are presented.—See also *Ibid.*, November, 1908, p. 114.

Gane and Webster point out that the enormous demand for oil of spearmint during the past year has exhausted all available supplies. They have met with several samples obviously adulterated with peppermint oil.—Drug Topics, New York, 1908, v. 23, p. 325.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 147-148), in discussing the B. P. C. requirements for spearmint oil assert that it is soluble in about its own volume of 80 per cent alcohol, the solution becoming opalescent on adding more solvent.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report that all of the 3 samples of spearmint oil examined by them were of U. S. P. quality except one, which had an optical rotation 2° below the limit.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 76.

Lehn & Fink (Annual Report for 1908, p. 25) report the constants of 4 samples of oil of spearmint examined by them. One sample contained oil of peppermint; the test by which it was detected is outlined.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 38) report that 5 samples of spearmint oil examined by them gave figures ranging as follows: Specific gravity from 0.920 to 0.934; optical rotation, $-41^{\circ} 30'$ to $-44^{\circ} 0'$; soluble in from 1 to 4 volumes of 90 per cent alcohol.

OLEUM MORRHUÆ.

An editorial gives a tabulated statement of the catch and yield at Lofoten and for the whole of Norway for the years 1900-1908.—Chem. & Drug., Lond., 1908, v. 72, p. 564.

An editorial note points out that advices from the Norwegian fisheries indicate a total catch of 50,000,000 fish, producing 59,000 hectoliters of oil, as against 47,000 hectoliters last year. This is the largest crop in a number of years.—Paint, Oil and Drug Review, Chicago, 1908, v. 46, July 15, p. 24.

Barnard, H. E., reports on 2 samples of cod liver oil examined, having a specific gravity at 25° C. of 0.9205, 0.9195; butyro at 20° C. 79.3, 79.2; saponification value, 183.5, 176.9; and iodine value 152.1, 150.7, respectively.—Rep. Indiana Bd. Health, 1908, p. 340.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 13) report a great degree of constancy in the figures given by the samples of Norwegian cod liver oil examined by them. The same figures were also found in the Newfoundland oils and in genuine English oils. The optical rotation of samples of English "cattle" oil (made from the livers of various fish, but sold as cod liver oil) ranged from $+38^{\circ}$ to $+52^{\circ}$, while the specific gravity was as high as 0.931.

Paal and Reth discuss the reduction of cod liver oil by means of colloidal palladium and describe the properties of the resulting product.—*Ber. d. deutsch. chem. Gesellsch., Berl.*, 1908, v. 41, II, pp. 2290-2291.

An unsigned article reviews the history of cod liver oil emulsion and points out that the first formula for a preparation of this kind appears in the *Pharmaceutical Journal*, London, for April, 1870.—*Chem. & Drug., Lond.*, 1908, v. 72, p. 88.

Southworth, Thomas S., advises the use of cod liver oil early in the treatment of rachitis. The dose should be small at first and gradually increased. If cod liver oil is not borne well, olive oil may be used. The long-continued use of cod liver oil is certainly of value in rachitis, and when the food contains insufficient fat, as in case of feeding with condensed milk, the oil may act prophylactically as well as curatively. It is also the best vehicle for the administration of phosphorus.—*J. Am. M. Ass.*, 1908, v. 50, p. 91.

Wells, G. Harlan, in discussing the treatment of pulmonary tuberculosis, asserts that cod liver oil, which has been the mainstay of the old school for many years, is primarily a food and has no advantage over the more palatable oils and fats.—*Hahnemann. Month., Phila.*, 1908, v. 43, p. 601.

OLEUM MYRISTICÆ.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 144), in discussing the B. P. C. requirements for nutmeg oil, assert that the maximum limit for specific gravity should be 0.930, that they have observed rotations down to $+7^{\circ} 52'$ in oils from good material, and that special instructions should be given as to the method of distillation.

Bennett, C. T., in discussing the B. P. C., says that he has observed the following limits: Specific gravity, 0.892 to 0.918 (15.5° C.); rotation, $+13^{\circ}$ to $+29^{\circ}$; usually soluble in 3 volumes of 90 per cent alcohol.—*Pharm. J., Lond.*, 1908, v. 27, p. 624.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 125), in commenting on the Ph. Japon. III requirements for nutmeg oil, assert that the upper limit for specific gravity (0.87-0.91 at 15°) is too low and should be raised to 0.930, as otherwise the oil from the best material is excluded.

Smith, Kline & French Co. (Analytical Report, 1908, p. 28) report that 1 of the 2 samples of oil of myristica examined by them was not sufficiently soluble in 90 per cent alcohol.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 76.

Brandel, I. W., presents a review of the literature relating to the oils of mace and nutmeg during the years 1901 to 1903.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 246.

OLEUM OLIVÆ.

Gehe & Co. (Handels-Bericht, 1908, p. 47) discuss the economic conditions relating to olive oil and present a table giving the average annual production of olive oil in different portions of Italy during the years 1901–1905 and the production in 1906–7.

Sage, C. Edward, describes, with illustrations, the making of Provence olive oil.—Pharm. J., Lond., 1908, v. 26, p. 824.

Sinnige, H. H., presents a comprehensive review of the history and the uses of olive oil, in which he mentions particularly the magnitude of the olive oil industry; the variety, growth, and life of trees; the manufacture of olive oil; the preparation of olive oil for the market; and the consumption of olive oil.—Meyer Bros. Drug., St. Louis, 1908, v. 29, pp. 146–147.

Chem. & Drug. Lond. (1908, v. 72, p. 915) notes that a new process for obtaining olive oil without hydraulic pressure has been discovered in Seville by the Marquis of Acapulco. By this method 40 per cent of the oil can be extracted. The new process is held to be an improvement on the old in that there is no separation of the mass into solid and liquid and the discharge pipe is not choked up with the pulp, as was often the case with the old method.

A report by Consul D. I. Murphy, from Bordeaux, on the olive trade of the Mediterranean and the making of olive oil is reprinted.—Western Druggist, Chicago, 1908, v. 30, pp. 22–24.

An unsigned article states that, according to Consul James E. Dunning, the governmental inspection and analysis of oil intended for export from Italy insure a higher standard of olive oil.—J. Am. M. Ass., 1908, v. 51, p. 1510.

Rützon, Sophus, discusses the Ph. Dan. VII requirements for olive oil.—Arch. f. Pharm. og. Chem., Copenhagen, 1908, v. 15, pp. 65–67.

Harvey, T. F., suggests a monograph on the testing of olive oil; specific gravity, 0.915 to 0.918. Iodine value 79 to 80; saponification value 187 to 193 (130 samples); free acid (as oleic), not exceeding 5 per cent; refractive index, 1.4687 to 1.4696 at 20° C. He believes that the Halphen, Baudouin, and Renard tests should be adopted, and the Becchi test abandoned.—Chem. & Drug., Lond., 1908, v. 72, p. 904.

An abstract from the Pharmaceutical Journal points out that the olive oils of commerce are classified in a somewhat arbitrary manner

into two divisions, viz. "edible" and "commercial" oils, and that each of these classes comprises many varieties. A recent examination by Sage shows that the range in specific gravity (at 15.5° C.) was from 0.9160 to 0.9178; the range in iodine number from 81.1 to 84.02 and the saponification number 188 to 186. The free acid, calculated as oleic, varied from 0.2 to 1.10. Sage also points out that the temperatures at which olive oils congeal is not necessarily a guide to their quality and purity.—*Drug Topics*, New York, 1908, v. 23, p. 313.

Noyes, C. R., asserts that for the most part the present olive oils are true to label. Substitutes are now labeled "salad oil," and sophistications are limited by the stringent regulations of both Federal and State inspection to a constricted and somewhat hazardous traffic. Whatever adulteration is being carried on at the present time is certainly done on a small scale, and it is quite safe to assume that the generality of olive oil offered varies only in quality and not in composition.—*Proc. Pennsylvania Pharm. Ass.*, 1908, pp. 282-284. (See also *Am. Druggist*, 1908, v. 53, p. 66.)

An editorial discusses the question "What is sweet oil?", and points out that in accordance with a decision of the food commissioner of Ohio, supported by the opinion of F. L. Dunlap, of the Federal Board of Food and Drug Inspection, dealers will be expected to furnish olive oil only, when "sweet" oil is asked for.—*Drug Topics*, New York, 1908, v. 23, p. 139.

Güth, Heinrich, discusses the properties and the characteristic tests for the several oils that are used as table oils. He presents a table giving the acid number, refraction number, iodine number, saponification number, and characteristic reaction of the several oils.—*Pharm. Zentralh.*, 1908, v. 49, pp. 999-1003, 1017-1021.

Gane and Webster discuss the U. S. P. nitric acid test for olive oil and assert that their experience with the test has been anything but satisfactory.—*Drug Topics*, New York, 1908, v. 23, p. 197.

They also take exception to the criticism made of the U. S. P. description of olive oil which requires that "at 0° C. it forms a whitish granular mass." They believe this is a statement of fact and accurate when the test is properly carried out.—*Ibid.*, 1908, v. 23, p. 245.

Gill, Augustus H., presents some observations on the oxidation of olive oil, and points out that, except when spread out in a finely divided condition as upon cotton, olive oil changes but little on exposure to the air or heat.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 874-876.

van Rijn, W., reports experiments to determine the reaction between finely divided metals and olive oil. He found that magnesium, zinc, manganese, iron, copper, and lead were attacked and more or

less readily dissolved by the acids of the oil.—Pharm. Weekblad., 1908, v. 45, pp. 347-348.

Paal and Roth discuss the catalytic action of colloidal metals of the platinum group and report experiments on the reduction of olive oil in aqueous emulsions, by means of colloidal platinum.—Ber. d. deutsch. chem. Gesellsch., Berl., 1908, v. 41, II, pp. 2288-2290.

Gane, E. H., asserts that many samples were condemned on account of faulty U. S. P. tests. Pure oils will not solidify in the cold by the test given. Heat is necessary. The old 1890 test was better.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 772.

Miller, Emerson R. (Proc. Alabama Pharm. Assoc., 1908, 71-73) publishes the results of examination of 30 samples of olive oil by the Halphen, the nitric acid, and the silver nitrate tests. Six of the samples were evidently nothing but cottonseed oil, and 5 others contained the same oil as adulterant. In an experience of a number of years, during which examinations of olive oil in the open market were made by the author, from 20 to 36 per cent of the number examined were similarly adulterated.—Proc. Am. Pharm. Ass., 1909, v. 57, p. 172.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report that 3 of the 12 samples of olive oil which they examined were inferior on account of their high acid number.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 76.

Lythgoe, Hermann C., reports that of 62 samples of olive oil 2 were found to be adulterated with cottonseed oil.—Rep. Massachusetts Bd. Health, 1908, p. 605.

Fischer, R., reports that of 74 samples of olive oil purchased as and for olive oil, 10, or 13.5 per cent of the total, were found to be adulterated, 8 with cottonseed oil, 1 with lard oil, and 1 with sesame oil.—Proc. Wisconsin Pharm. Ass., 1908, p. 41. (See also Rep. Dairy & Food Com., Wisconsin, 1909, p. 103.)

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 172 samples of olive oil examined, 149 genuine and 23 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Barnard, H. E., reports on 29 samples of olive oil examined, all of which were of pure quality. He says that it is evident that this article as carried by the druggist is now free from cottonseed oil, and other foreign oils once so commonly dispensed as olive oil.—Rep. Indiana Bd. Health, 1908, p. 323.

Fitz-Randolph, R. B., reports that 46 samples of olive oil were examined, of which 1 was found to have been adulterated with cottonseed oil. Two years ago about 25 per cent of the samples of olive oil collected from druggists were found to be adulterated. The improvement in the quality of drugs, due to the enforcement of the food

and drugs law is well illustrated by the improvement in this article.—Rep. New Jersey Bd. Health, 1908, p. 226.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 24-25) report that they examined over 120 samples of olive oil of many varieties, with good results in the majority of cases. They point out that the presence on the market of what probably are "sulphur" oils, bleached by super oxides, renders great care necessary in the choice of suitable oils. These oils are absolutely useless for the manufacture of lead plaster, etc.

Sykes reports 1 sample of olive oil containing 50 per cent of cotton-seed oil and another containing 35 per cent.—Pharm. J., Lond., 1908, v. 27, p. 91.

McGill, A., summarizes the results of the examinations of olive oil: In 1899, 40 per cent; in 1905, 14.8 per cent, and in 1908, 18.3 per cent of the samples examined were found to be either doubtful or adulterated.—Bull. Lab. Incl. Rev. Dept., Canada, No. 159, 1908, p. 10.

An editorial points out the fact that there is a growing use of olive oil by people of moderate means and also large consumption of the product by newcomers from Italy and other Mediterranean countries, which has prompted the Treasury Department to be considerate in its regulation concerning importations of the oil. According to the latest ruling, olive oil of a low price, and imported in barrels, and not possessing qualities requisite for eating, "although eaten by a certain class of people," is free of duty under paragraph 626.—Paint, Oil and Drug Review, Chicago, 1908, v. 45, May 13, p. 24.

Frouin, Albert, discusses briefly the antihæmolytic action of oil.—Compt. rend. Soc. de biol. Par., 1908, v. 64, p. 1041.

An editorial (N. York M. J., 1908, v. 88, p. 993) calls attention to an essay by Köster on the therapeutic value of olive oil in the treatment of gall bladder disease. The influence of oil treatment is not a direct one on the formation of bile, but the administration of oil, by mouth or rectum, produces a repeated discharge of that secretion, thus inducing the gall bladder to empty its contents frequently, and in this way preventing stagnation of bile in the gall bladder, to be followed by the formation of gallstones.

OLEUM PICIS LIQUIDÆ.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report on 13 samples of oil of tar, all were high in specific gravity.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 77.

Pearson, W. A., asserts that a specific gravity of oil of tar of 0.892 is exceedingly low and that the yield of this grade of oil is very meager.—Am. J. Pharm., Phila., 1908, v. 80, p. 77.

Lehn & Fink (Annual Report for 1908, p. 25) point out that it seems almost impossible to obtain distilled oil of tar.

OLEUM PIMENTÆ.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 145), in discussing the B. P. C. requirements for pimenta oil, point out that it usually has a brownish appearance, and that in a few instances the rotation is up to -5° . The minimum figure for specific gravity should be 1.024; all oils with a specific gravity below 1.04 are not adulterated.

Bennett, C. T., in discussing the B. P. C., says that he has observed the following limits: Specific gravity 1.040 to 1.049 (15.5° C.); rotation -1° to -3° . Eugenol content 65 to 75 per cent.—Pharm. J., Lond., 1908, v. 27, p. 624.

Evans Sons Lœscher & Webb (Analytical Notes, 1908, p. 28) report examining a sample of pimenta oil having a specific gravity of 1.042, and optical rotation -1° . The portion not absorbed by 5 per cent potassium hydrate solution was 20 per cent. The oil was soluble in 2 volumes of 70 per cent alcohol.

OLEUM RICINI.

Schneider, Albert, asserts that the castor-oil plant is a very common ornamental plant which could be grown commercially in California.—Pacific Pharmacist, 1908-9, v. 2, p. 465.

An abstract from the "Indian Trade Journal" states that the products obtained from castor-oil seeds, in the methods adopted by manufacturers in India, are: Oil 31 per cent, husk and wastage 26 per cent, and cake 43 per cent. By modern appliances as much as 40 per cent of oil is obtained.—Chem. & Drug., Lond., 1908, v. 73, p. 105.

Several years ago (1904) attention was directed by G. Weigel to Japanese castor oil as a possible competitor on the world's market, but until recently no further information concerning this commodity has been given out. It is now stated, however, that efforts are being made by several Japanese firms to utilize the *Ricinus* plants, which flourish particularly well in Formosa, and that toward this end the Japanese Government also evinces some interest. Two varieties of *Ricinus* are said to come under consideration, one dark green and one red; the seeds of the latter appear to be both larger and richer in oil content. (Pharm. Zentralh. 1908, v. 49, p. 916.)—Proc. Am. Pharm. Ass., 1909, v. 57, pp. 226-227.

Harvey, T. F., reports that the acetyl value or even the acetyl saponification value alone, taken in conjunction with the behavior toward 90 per cent alcohol and petroleum spirit, establishes the

purity of this oil. The acetyl value of 42 samples lay between 140 and 151, and the acetyl saponification value between 302 and 308. For castor oil the iodine absorption is of no diagnostic value.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 905.

van Rijn, W., calls attention to the possibility of zinc being dissolved by castor oil and the need for directing that this oil be preserved in vials rather than metal containers.—*Pharm. Weekblad.*, 1908, v. 45, pp. 346-347.

Paal and Roth report experiments on the reduction of castor oil in alcoholic solution by means of catalysis, using colloidal palladium.—*Ber. d. deutsch. chem. Gesellsch.*, Berl., 1908, v. 41, II, pp. 2286-2288.

Lythgoe, Hermann C., reports that the 13 samples of castor oil examined were all in compliance with the pharmacopœial requirements.—*Rep. Massachusetts Bd. Health*, 1908, p. 612.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 19 samples of castor oil examined, 18 genuine and 1 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 77.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 10) report that no adulteration was found in the 140 samples of castor oil examined. The free acid (oleic) ranged from 0.3 to 3 per cent, according to quality, the English "first pressure" containing least of all.

Hommell, P. E., asserts that castor oil is highly esteemed as a harmless laxative, the drawback to a vast increase in the exhibition of castor oil being due chiefly to its disagreeable taste and odor. The U. S. P. should adopt a satisfactory formula for a tasteless, transparent preparation of castor oil. Various formulas containing saccharin with aromatic principles have been suggested, one of which should be selected for the U. S. P.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 107.

A clipping taken from the *Nurses Journal* of the Pacific Coast states that if the mouth be chilled by holding ice in it castor oil may be taken without disgust.—*J. Am. M. Ass.*, 1908, v. 50, p. 955.

Magnus, R. (*Pflügers Arch.* v. 122, pp. 261-266), reports observations on the influence of castor oil on digestion.—*Jahresb. ü. Tier. Chem.*, for 1908, Wiesb., 1909, v. 38, p. 1140.

Kilmer, Theron Wendell, recommends the use of castor oil as the most important single drug in the treatment of ambulatory cases of pneumonia in children. He cautions that the spoon should be wetted before pouring the oil into it, and it is then chilled on ice.—*J. Am. M. Ass.*, 1908, v. 51, p. 287.

Sonnenberg and Kothe (*Mitteil. a. d. Grenzgeb. Med. u. Chir.*, Jena, v. 19, No. 1) report rapid improvement in 144 out of 150 cases of

appendicitis treated with castor oil. The other 6 recovered after operation. Its limitations are discussed.—*Ibid.*, 1908, v. 51, p. 449.

Körte, W., discusses the use of castor oil as an aid to the diagnosing of acute perityphlitis and deprecates the practice as being dangerous.—*Therap. d. Gegenw.*, Berl., 1910, v. 49, pp. 51-53.

Rotter, J., discusses the action of castor oil in acute perityphlitis.—*Ibid.*, 1908, v. 49, pp. 53-55.

Karewski, F., discusses the castor oil treatment of appendicitis.—*Ibid.*, 1908, v. 49, p. 55.

Bierbaum, K. (Diss. Giessen, 1906, p. 62), presents experimental observations on the toxicity of the seed of *Ricinus communis* and concludes that for animals this seed is poisonous only in exceptional cases, and that, under ordinary conditions, it can not be said to be toxic.—*Jahresb. ü. Tier-Chem.* for 1908, Wiesb., 1909, v. 38, p. 1141.

Hooper, David (Pharm. Journ., Aug. 8, 1908, 161), calls attention to "castor meal," a product submitted by the director general of commercial intelligence to the Indian Museum for analysis. It was a white, odorless, and tasteless powder, said to have been made from castor cake after removal of the oil and the natural toxic property. The meal was exceptionally rich in albuminoids, was free from starch, and would appear to be a suitable food for diabetic subjects.—*Proc. Am. Pharm. Ass.*, 1909, v. 57, p. 226.

OLEUM ROSÆ.

The therapeutic committee of the British Medical Association suggests that oil of rose be deleted from the Ph. Brit., as it is unnecessary if the water is retained.—*Phar. J.*, Lond., 1908, v. 27, p. 811. See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 85-87, and November 1908, pp. 103-109) report on the culture of the rose in Bulgaria and the production of pure rose oil.

Marpmann discusses the development of the rose-oil industry in Bulgaria, the introduction of modern stills, and the possible preservation of the fresh flowers, so as to permit of their distillation at a later date.—*Pharm. Zentralh.*, 1908, v. 49, pp. 671-673.

"An Importer" presents a brief note on otto of rose, particularly the Bulgarian product.—*Pharm. J.*, Lond., 1908, v. 27, p. 513.

An unsigned article points out that the first details of this season's production of Bulgarian otto of rose have been received, and places the yield at 2,508 kilos, or 3 per cent more than last year's crop. The returns by districts for the present crop were as follows, amounts being in kilos: Philippopoli, 302,500; Tchirpan, 125,500; Stara-Zagora, 112,500; Nova-Zagora, 93,500; Kazanlik, 945; Karlova, 938; Pechtera, 67; Panagurichte, 14.—*Oil, Paint and Drug Reporter*, New York, 1908, v. 74, August 3, p. 39.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 146), in discussing the B. P. C. requirements for rose oil, assert that the specific gravity of Bulgarian oil lies between 0.849 and 0.862, and that the saponification number fluctuates from 8.5 to 19. They point out that the statement that geraniol is present to the extent of 70 to 75 per cent relates to the total alcoholic content (geraniol plus citronellol), which runs from 66 to 75 per cent; of this, from 40 to 45 per cent is geraniol and about 30 per cent citronellol. An alcohol content of over 76 per cent may be due to adulteration with palmarosa oil.

Bennett, C. T., in discussing the B. P. C., asserts that this oil is still very largely adulterated. A highly purified synthetic geraniol, mixed with citronellol, is used to a considerable extent, the higher specific gravity and refractive index being counterbalanced by the addition of alcohol, which can be identified by washing with water and applying the iodoform test to the washings. Phenyl ethyl alcohol is also said to be employed. This also raises the specific gravity and refractive index. The observed limits for pure otto are as follows: Specific gravity, 0.854 to 0.861 at 30°, compared with water at 15°; rotation, -2° to -4° ; refractive index, 1.461 to 1.463 at 25° C. Melting point of stearoptene, 33° to 37° C.—Pharm. J., Lond., 1908, v. 27, p. 624.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 132), in commenting on the Ph. Helv. IV requirements for rose oil, point out that not all rose oils are sufficiently liquid to drip at 20°, and, as many samples of the oil are no longer liquid at 20°, they recommend that the specific gravity be taken at 30°.

In commenting on the Ph. Japon. III requirements for rose oil (*Ibid.*, April, 1908, p. 126), they assert that owing to the content of difficultly soluble paraffins in this oil the alcoholic solution should be shaken for some time in order to dissolve again the separations first occurring.

In discussing the Ph. Fr. V requirements for rose oil (*Ibid.*, November, 1908, p. 147) they point out that since this oil frequently solidifies at 20° it is advisable to determine the specific gravity at a higher temperature. The temperature at which the separation of crystals commences depends upon the paraffin content of the oil, and fluctuates between $+19^{\circ}$ and $+23.5^{\circ}$.

Henderson, H. J., reports on three samples, which had a specific gravity of from 0.8634 to 0.8656; from 10 to 14.45 saponification number, and a congealing point of 20° C.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 772.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 31) report the following figures obtained from their examination of 3 samples of otto of rose made by two of the best Bulgarian distillers: Specific gravity from 0.8587 to 0.8595, optical rotation from -2° 50'

to $-3^{\circ} 20'$, refractive index, 1.463 to 1.4645. They point out that the sweetness and power of the odor are still the most satisfactory tests of purity for this substance.

Parry, E. J., asserts that otto of rose has probably not been so largely adulterated for many years as appears to be the case this season. He reports the examination of a number of samples and concludes that a mixture of geraniol with a little absolute alcohol has been used to an enormous extent this year as an adulterant.—Chem. & Drug., Lond., 1908, v. 73, p. 244.

Brandel, I. W., reviews some of the recent literature relating to the preparation, composition, and adulteration of oil of rose.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 99, 371-376.

OLEUM ROSMARINI.

Mitlacher, Wilhelm, describes and illustrates some of the anatomical characteristics of *Rosmarinus officinalis*.—Ztschr. d. allg. österr. Apoth.-Ver. Wien, 1908, v. 46, p. 3.

Gane and Webster point out that standards set by the U. S. P. VIII for oil of rosemary were not only too stringent, but in some particulars inaccurate. Even at the present time the requirement that the oil should be dextrogyrate demands modification, as it has been shown that lævogyrate oil is not necessarily an adulterated oil. Of 13 samples examined by them two were distinctly lævogyrate. They present a table showing the varied character of the oils examined by them, the specific gravity varying from 0.894 to 0.906, the bornyl acetate, from 1.7 to 5.5 per cent and the total borneol content from 8 to 15.4 per cent.—Drug Topics, New York, 1908, v. 23, p. 324.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 88, and November, 1908, p. 109) point out that the French rosemary oil is now cheaper than the Dalmatian. It is further stated that while the French, Spanish, and Dalmatian oils rotate to the right, the English oils have shown lævorotation.

Henderson, H. J., found that oils from the same plants in different seasons were dextrogyrate one season, lævogyrate the next.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 772. (See also p. 766.)

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 146), in discussing the B. P. C. requirements for rosemary oil, assert that the higher limit of rotation should be $+15^{\circ}$, and that the ester content, calculated as bornyl acetate, is between 1 and 6 per cent.

Bennett, C. T., in discussing the B. P. C., asserts that the optical rotation of oil of rosemary varies enormously. He has examined oils rotating up to $+15^{\circ}$ and French oils of known purity having a rotation of -8° . The statements (taken from Gildermeister and Hoffman) that "on fractionation the first 10 per cent should be dextro-

rotatory, and all levorotatory oils found in commerce may safely be declared adulterated," were shown by Parry and the writer two years ago to be quite incorrect. The figures for total borneol (free and combined) should be 10 to 16 per cent; esters, 2 to 5 per cent.—*Pharm. J., Lond.*, 1908, v. 27, p. 624.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 132), in discussing the Ph. Helv. IV requirements for rosemary oil, point out that the statement that rosemary oil is soluble in any proportion of carbon disulphide, is superfluous since all essential oils are the same.

In discussing the Ph. Japon. III requirements for rosemary oil (*Ibid.*, April, 1908, p. 126) they point out that very many oils have a pure yellowish color, that the upper limit of the specific gravity (0.915 at 15°) is too low, and should read 0.920, and that all essential oils dissolve in carbon disulphide; a possible cloudiness must be attributed to the slight content of water due to the manufacture of the oil, which is unavoidable.

An unsigned article points out that in the Ph. Fr. V the specific gravity of oil of rosemary is given as 0.900 to 0.920. It is dextro-rotatory. This excludes much pure Spanish and some pure French oils, which are often levorotatory.—*Chem. & Drug., Lond.*, 1908, v. 73, p. 414.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 147) quote the Ph. Fr. V requirements for rosemary oil.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report that only 2 of the 6 samples of rosemary oil examined by them were of U. S. P. quality; the others were rejected because of their solubility, specific gravity, optical rotation, and physical appearance.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 77.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 32) report the results of their examination of various samples of rosemary oil. One sample of English origin had an optical rotation of $-1^{\circ} 20'$, while 12 lots from first-rate French sources had an optical rotation of from $+3^{\circ} 30'$ to $+10^{\circ} 40'$.

OLEUM SABINÆ.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 97–98) think that pinene is not present in pure oil of savin. This fact is important, as savin oil is frequently adulterated with turpentine oil, which will now be easier to detect. The properties of pure savin oil are mentioned.

Beythein and Atenstädt find that none of the few tests which have been described as being characteristic of savin oil can be relied upon. The authors outline several tests, but conclude that the characteristic

odor of oil of savin constitutes its best qualitative test. —Ztschr. f. Unters. Nahr.-u. Genussm., Berl., 1908, v. 16, pp. 677-679.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 147), in discussing the B. P. C. requirements for savin oil, point out that the minimum saponification number is 110, and that from 6 to 10 volumes of 80 per cent alcohol usually suffice for solution. In many cases the solution is opalescent or turbid.

Bennett, C. T., in discussing the B. P. C., points out that it should be noted that French oil of savin is derived from a different species (*J. phœnicea*), and has a lower specific gravity (0.890 to 0.895) and lower optical rotation ($+3^{\circ}$ to $+5^{\circ}$). It contains more pinene, and consequently less of the valuable ester constituents, and should therefore be regarded as an inferior substitute.—Pharm. J., Lond., 1908, v. 27, p. 624.

Lehn & Fink (Annual Report for 1908, p. 26) report the examination of 1 sample of oil of savin, which met the U. S. P. requirements.

Heuisler, P. I., reports 1 sample which polarized at -21° instead of $+40^{\circ}$ to $+60^{\circ}$, and which was apparently strongly adulterated with oil of turpentine.—Proc. Maryland Pharm. Ass., 1908, p. 35. (See also Proc. Am. Pharm. Ass., 1908, v. 56, p. 819.)

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 33) report the following figures obtained by the examination of 3 lots of savin oil: Specific gravity, 0.912 to 0.918, optical rotation, $+50^{\circ}$ to $+56^{\circ}$, soluble in 1 volume of 90 per cent alcohol.

Brandel, I. W., presents a review of a number of articles on the chemistry and composition of oil of savin.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 56-58.

OLEUM SANTALI.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 89-96) report the quantity of sandalwood sold in the year 1907. The various requirements which are said to apply to sandalwood oil are discussed in detail. It is pointed out that the requirements of the U. S. P. as regards rotatory power and solubility have been objected to, and that the santalol content alone is a criterion of its value.—See also *Ibid.*, November, 1908, pp. 110-113.

Pancoast and Pearson assert that there is much difference in the physical and chemical properties of true sandalwood oil derived from various sources and distilled under different conditions, and believe that much of the suspicious oil on the market may prove to be genuine. They are suspicious of this oil unless its properties correspond rigidly to the requirements of the U. S. P., and point out that it is also wise to take the acid number and suggest the application of other tests, such as fractional distillation. They conclude that it

would be unwise for our pharmacopœia to give a wider range to the constants of this oil, even if some injustice is done by excluding some pure oils. The comparatively narrow limits render adulteration more difficult.—*Am. J. Pharm., Phila.*, 1908, v. 80, pp. 219–220.

Harvey, T. F., reports that a santalol content of 94 per cent is too rigorous as a minimum figure. A range of 90 to 96 per cent would probably include most pure oils. Pure oils of rotation -14° and under have been noted.—*Chem. & Drug., Lond.*, 1908, v. 72, p. 905.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 147), in discussing the B. P. C. requirements for sandalwood oil, assert that the maximum specific gravity should be stated as 0.985, and point out that the saponification number may be up to 25.

Bennett, C. T., in discussing the B. P. C., asserts that the optical rotation may occasionally fall below the Ph. Brit. minimum, but it would be inadvisable further to extend the limits, as admixture with West Indian oil might then be overlooked. The santalol content calculated as $C_{15}H_{24}O$ is frequently as low as 92 per cent, but should never fall below 90 per cent.—*Pharm. J., Lond.*, 1908, v. 27, p. 624.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 133), in discussing the Ph. Helv. IV requirements for sandalwood oil, point out that it is occasionally colorless, that the rotation is occasionally somewhat less than -17° to -19° , and that it is not always soluble in 5 volumes of spirit of wine. The Ph. Helv. IV indicates in detail the mode of determining the santalol content based on the erroneous formula $C_{15}H_{26}O$. Recalculating the content on the more correct formula $C_{15}H_{24}O$ would reduce the requirement to 89.1 per cent.

In commenting on the Ph. Japon. III requirements for sandalwood oil (*Ibid.*, April, 1908, p. 126), they assert that, in case of an oil which consists of various constituents, an actual boiling point is out of the question.

An unsigned article points out that in the Ph. Fr. V the specific gravity of oil of sandalwood is given as 0.975 to 0.985. It is soluble in five volumes of 70 per cent alcohol at 20° . It should contain at least 90 per cent of santalol and have an optical rotation of $+17^{\circ}$ to $+19^{\circ}$. These requirements are more stringent even than those of the Ph. Brit., and it is hard to understand why they have been made more rigid. Many pure oils will be excluded.—*Chem. & Drug., Lond.*, 1908, v. 73, p. 414.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 147), in discussing the Ph. Fr. V requirements for sandalwood oil, assert that the rotation is occasionally a little lower than -17° and that the upper limit is -20° . Santal oil should contain at least 89.1 per cent santalol.

Parry, Ernest J., reviews the recent contributions on oil of sandalwood and takes exception to some of the constants recommended by

Dohme and Engelhardt. He suggests that the abnormal oil which has been reported on by various observers is probably obtained from old or rotten wood, of which considerable quantities are said to have been disposed of by the Government sellers during the past year or so.—Chem. & Drug., Lond., 1908, v. 72, p. 489.

For additional comment by English manufacturers see *Ibid.*, pp. 541–542.

Dohme and Engelhardt review the criticisms that have been made on their previous paper on oil of sandalwood. They reiterate the belief that the estimation of santalol content is the most important test and that but little reliance can be placed on optical rotation. They also point out that the U. S. P. requirement for optical rotation of santal oil is entirely too high.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 811–814, 819.

Kebler, L. F., reports that a number of samples of oil of santal were found deficient in santalol content.—*Ibid.*, 1908, v. 56, p. 781.

Gane and Webster report observations on 10 samples of santal oil, the specific gravity of which varied from 0.961 to 0.977; optical rotation from 15° to 17° , and the santalol content from 90 to 97 per cent.—Drug Topics, New York, 1908, v. 23, p. 309.

Patch, E. L., reports on 4 samples of santal having a rotation of 16.8° to 18.7° and a specific gravity of from 0.9722 to 0.9790. Two samples that were rejected had a foreign odor and a rotation of 15.4° and 15.2° , respectively.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 772.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report that 2 of the 10 samples of oil of santal examined by them were abnormal in optical rotation.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 77.

Blome, Walter H., reports on 18 samples of santal oil. All good.—Proc. Michigan Pharm. Ass., 1908, p. 94.

Woolsey, J. F., reports on one lot of oil of sandalwood showing an abnormally low specific gravity and rotation which was rejected. He asserts that it is possible to purchase a pure oil from *Amyris balsamifera*, having a specific gravity above 0.960 at 15° C., and a rotation of not less than $+24^{\circ}$ at 25° C.—Proc. Pennsylvania Pharm. Ass., 1908, p. 84.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 32–33) point out that sandalwood oils with the normal physical and chemical characters are being offered at the present time at such a low price as to render their purity questionable. They are inclined to think that fractions of other so-called sandalwood oils are being used as adulterants; also that the Australian variety is being used for this purpose. Results of their examination of several varieties are given.

Brandel, I. W., presents a review of a number of articles discussing the composition and properties of oil of sandalwood; also gives a

compilation of the requirements made by several European pharmacopœias.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 92–93.

Semmler, F. W., presents some additional observations of the chemistry of the primary alcohol $C_{15}H_{24}O$, santalol, contained in the sandalwood oil of the East Indies.—Ber. d. deutsch. chem. Gesellsch., Berl., 1908, v. 41, II, pp. 1488–1493.

OLEUM SASSAFRAS.

Gane and Webster report on 3 samples of oil of sassafras obtained directly from the distillers: the specific gravity varied from 1.065 to 1.072 and the optical rotation from $+3^\circ$ to $+3^\circ 75'$. They point out that the commercial oil is sometimes admixed with camphor oil, and that the so-called artificial oil of sassafras is simply a fraction of camphor oil.—Drug Topics, New York, 1908, v. 23, p. 324.

Pancoast and Pearson assert that the main adulterant of oil of sassafras is a certain fraction of camphor oil.—Am. J. Pharm., Phila., 1908, v. 80, p. 220.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 113), assert that the statement by the above writers that camphor is not a normal constituent of sassafras oil is erroneous.

Bennett, C. T., in discussing the B. P. C., asserts that oil of sassafras is usually soluble in 2 to 3 volumes of 90 per cent alcohol. He has observed the following limits: Specific gravity, 1.068 to 1.086 (15.5° C.); rotation, $+1^\circ$ to $+3^\circ$. Light fractions of camphor oil tend to reduce the specific gravity and increase the optical rotation. Admixture with safrol can be detected by the nose.—Pharm. J., Lond., 1908, v. 27, p. 624.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 147), in discussing the B. P. C. requirements for sassafras oil, point out that it has a specific gravity of from 1.070 to 1.082 at 15° , and that in many cases from 1 to 2 volumes of 90 per cent alcohol are required to effect solution.

Smith, Kline & French Co. (Analytical Report, 1908, v. 29) report that 4 of the 14 samples of sassafras oil examined by them were abnormal.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 77.

Brandel, I. W., discusses some of the recent literature relating to safrol and presents a table giving the color reactions obtained with various phenols.—Pharm. Rev., Milwaukee, 1908, v. 26, p. 276.

OLEUM SINAPIS VOLATILE.

Moerk, Frank X., points out that from the amount of volumetric solution, in the assay of volatile oil of mustard, the presence of 99.49 per cent of allyl thioisocyanate is indicated, and not 92 per cent as stated in the text of the Pharmacopœia.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 900.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 144), in discussing the B. P. C. requirements for mustard oil, assert that the lower limit for specific gravity of this oil should be 1.016, that in distilling, the bulk of the oil passes over between 147° and 152°, and that natural oils sometimes contain only 94 per cent of allyl isothiocyanate.

In discussing the Ph. Helv. IV requirements for mustard oil (*Ibid.*, April, 1908, p. 131), they point out that this oil is inactive, that the minimum figure for specific gravity must be given as 1.014, and that the requirement as to the boiling point would be more nearly correct at from 147° to 153°.

They also (*Ibid.*, April, 1908, p. 125), in discussing the Ph. Japon. III requirements for mustard oil, assert that the cloudiness which may occasionally occur, when it is dissolved in alcohol or carbon disulphide, must be attributed to a slight content of water, caused by the manufacture; also that if the directions given for the determination of menthol are strictly adhered to, the values obtained are too low.

In discussing the Ph. Fr. V requirements for artificial mustard oil (*Ibid.*, November, 1908, p. 146), they point out that the gradual yellowing of mustard oil can not possibly be prevented, that the specific gravity fluctuates between 1.020 and 1.025 at 15°, and that it boils chiefly between 150° and 153°.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report that 1 of the 3 samples of volatile mustard oil examined by them was a trifle low in boiling point, another in specific gravity.

Brandel, I. W., reviews some of the recent literature relating to oil of mustard and the several methods of determining the per cent of oil in seed.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, p. 277.

Kuntze, Max, discusses the determination of oil of mustard in spirit of mustard and similar preparations.—*Arch. d. Pharm.*, 1908, v. 246, pp. 58-69.

OLEUM TEREBINTHINÆ.

Teeple, J. E., discusses the origin of turpentine, the method of its production and the origin of the distillation of oil from it. Also outlines a method for the production of oil of turpentine from waste wood.—*Oil, Paint, and Drug Reporter*, New York, 1908, v. 73, January 20, p. 40.

Schimmel & Co. (Semi-Annual Report, April, 1908, pp. 102-107, and November, 1908, pp. 118-125) discuss the market and prices of turpentine oil for the year 1907, and present a detailed report on the turpentine industry in Algeria, Mexico, and the United States; also call attention to the various properties of turpentine oil as obtained from different species of trees mentioned by several writers, references being given to the works of each.

An editorial calls attention to the turpentine controversy between the producers of this article and points out the desirability of acceding to the request that an efficient investigation be made of present-day conditions in the turpentine market, so that this article may, in the future, be thoroughly well controlled.—*Oil, Paint, and Drug Reporter*, New York, 1908, v. 74, October 5, p. 7.

Bennett, C. T., contributes a brief note on the pine oils of commerce.—*Pharm. J., Lond.*, 1908, v. 80, p. 483.

"Turpentine and rosin." A statistical discussion of the manufacture of turpentine and rosin as reported in the census of 1905, including comparisons with previous censuses, and a discussion relative to the immediate future of the industry. (*Bur. of the Census, U. S. Manufs.*, 1905, pt. 3, pp. 647-657.)—*Exp. Sta. Rec.*, 1908-9, v. 20, p. 449.

Harries and Nieresheimer present observations on the action of ozone on oil of turpentine (pinene) and the composition of the resulting compounds.—*Ber. d. deutsch. chem. Gesellsch., Berl.*, 1908, v. 41, pp. 38-42.

Geer, W. C. (*U. S. Dept. Agric., Forest Serv. Circ.*, 152, pp. 1-29; figs. 17) gives a description of important changes in methods for the analysis of turpentine by fractional distillation with steam as previously employed. Results of the application of this method to four turpentines of different kinds are shown in graphic form.—*Chem. Abstr. Am. Chem. Soc.*, 1909, v. 3, No. 3, p. 382.

Walker, Percy H., discusses the testing of oil of turpentine, enumerates the constants, and calls attention to some of the adulterants that may be found.—*Bull. Bur. Chem., U. S. Dept. Agric.*, No. 109, 1908, pp. 8-9.

Richardson and Bowen report the results obtained in the analysis of turpentine oils. They point out that on account of the presence of varying amounts of lævo and dextrorotatory pinenes in pure turpentines, polarimetric methods are of very little service. They find that the Abbé refractometer and, within a certain range, Zeiss's butyrorrefractometer give invaluable aid. They also report a number of experiments and present a table giving the results obtained in connection with the refractive index. In conclusion they point out that the specific gravity furnishes an indication almost as valuable as the refractive index: but it is not as easily applicable to very small amounts of liquid.—*J. Soc. Chem. Ind., Lond.*, 1908, v. 27, pp. 613-616.

Coste, J. H., reports observations on the examination of turpentine and turpentine substitutes, the constituents of the several turpentine oils and the methods of examination.—*Analyst, London*, 1908, v. 33, pp. 219-230.

Blome, Walter H., reports that there is on the market an artificial oil of turpentine. Specific gravity is very near that of the natural

oil but the odor is quite unpleasant.—Proc. Michigan Pharm. Ass., 1908, p. 94.

Frey, Henry C., outlines a method for the rapid determination of petroleum naphtha in turpentine.—J. Am. Chem. Soc., 1908, v. 30, p. 420.

Pearson, W. A., asserts that the U. S. P. tests for petroleum benzin, kerosene, or similar hydrocarbons may prove unreliable if allowed to stand over night.—Am. J. Pharm., Phila., 1908, v. 80, p. 78.

F. I. D. No. 103 records decisions on the labeling of turpentine.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 617.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 149), in discussing the B. P. C. requirements for turpentine oil, point out that the crude oil has a specific gravity of 0.860 to 0.876.

Bennett, C. T., in discussing the B. P. C., says that he has observed the following limits for oil of turpentine: American variety: Specific gravity, 0.865 to 0.868 (15.5° C.); rotation, +1° to +6°; average refractive index at 15°, 1.4765. French: Specific gravity, 0.870 to 0.874 (15.5° C.); rotation, -31° to -35°; average refractive index at 15°, 1.4805. Russian: Specific gravity, 0.855 to 0.874 (15.5° C.); rotation, +5° to +16°; average refractive index at 15°, 1.4790. He asserts that the American oil is principally used in British pharmacy.—Pharm. J., Lond., 1908, v. 27, p. 624. (See also *Ibid.*, v. 26, pp. 483-484.)

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 133), in discussing the requirements of the Ph. Helv. IV for turpentine oil, point out that only the French oil is now official: the residue on evaporation increases with the age of the oil, owing to the formation of non-volatile products of resinification.

They also (*Ibid.*, April, 1908, p. 126), in discussing the Ph. Japon. III requirements for turpentine oil, assert that as a lower limit for the specific gravity, 0.860 would be more nearly correct than 0.865.

An unsigned article points out that the Ph. Fr. V gives the specific gravity of oil of turpentine as 0.864. Its refractive index is 1.4648 at 25°. (This is the only oil whose refractive index is given.) It boils at about 156° and is levorotatory, thus excluding most American turpentine.—Chem. & Drug., Lond., 1908, v. 73, p. 414.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 148), in discussing the Ph. Fr. V requirements for turpentine oil, point out that only the French turpentine oil is official: that the rotation falls between -20° and -40° and the specific gravity between 0.860 and 0.871 at 15°; boiling commences at 156°.

The Bureau of Chemistry reports examining approximately 300 samples of oil of turpentine to determine at what stage of the marketing this article is being adulterated. It was found that but few of the samples collected from the producers were adulterated, but

about 20 per cent of the samples from the stock of primary buyers and about 27 per cent of the samples from the stock of wholesale and retail dealers were sophisticated. The average amount of adulterant present was 6.5 per cent, though many of the samples contained 20 per cent and some as much as 75 per cent of mineral oil.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 443.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report that of the 19 samples of turpentine oil examined by them all but 2, which contained resin, were of satisfactory quality.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 77.

Fischer, R., reports that 9 samples of oil of turpentine were analyzed, nearly all of which were submitted by dealers who suspected them of being adulterated. In 8 of the samples adulteration with naphtha oil was found, amounting in one instance to 70 per cent.—Proc. Wisconsin Pharm. Ass., 1908, p. 41. (See also Rep. Dairy & Food Com., Wisconsin, 1909, p. 103.)

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 42) report the results of their examination of 38 samples of turpentine oil. They confirm the remarks of Parry on the general diminution of the rotatory power of American turpentine during recent years.

Hommell, P. E., suggests that the turpentine liniment, formerly known as "Kentish liniment," should be dismissed from the U. S. P. as it is very rarely prescribed.—Proc. New Jersey Pharm. Ass., 1908, p. 105.

OLEUM TEREBINTHINÆ RECTIFICATUM.

Schimmel & Co. (Semi-Annual Report, April, 1909, p. 149), in discussing the B. P. C. requirements for rectified turpentine oil, assert that the higher limit for specific gravity is 0.871.

In discussing the Ph. Helv. IV requirements for rectified turpentine oil (*Ibid.*, April, 1908, p. 134) they point out that the residue of evaporation increases with the age of the oil.

They also (*Ibid.*, April, 1908, p. 126) point out that the Ph. Japon. III requires that rectified oil of turpentine be colorless, have a neutral reaction, specific gravity at 15° of from 0.86 to 0.87, a boiling point between 155°–162°, and that it be soluble in 5 to 10 parts alcohol.

Glover, V. J., advises the use of oil of turpentine for freeing a room of flies when they are numerous: a little of the oil is poured over some dying cinders on a shovel occasionally. (Note that the oil is highly inflammable.)—Lancet, 1908, v. 2, p. 717.

Fabre, M. (Obstétrique, Par., Feb., N. S. 1, No. 1), states that oil of turpentine is a valuable internal antiseptic, which may be administered by the mouth, skin, lungs, subcutaneously or introduced into the cavity of the uterus, the effect being precisely the same. It prevents puerperal infection.—J. Am. M. Ass., 1908, v. 50, p. 1571.

Smith, Eustace, discusses the internal use of oil of turpentine.—Brit. M. J., Lond., 1908, v. 1, p. 1218. (See also Merck's Arch., N. Y., 1908, v. 10, pp. 210–213.)

Graves, N. A., asserts that turpentine is an invaluable remedy in typhoid fever when the tongue is dry and pointed and dark colored and there is tympany.—Tr. Nat. Eclect. M. Ass., 1908, v. 36, p. 27.

Ellingwood, Finley, asserts that where we have a very greatly relaxed condition, we have an indication for turpentine.—*Ibid.*, 1908, v. 36, p. 53.

OLEUM THEOBROMATIS.

Halphen, G., discusses the analysis of butter of cacao.—J. de pharm. et de chim., Par., 1908, v. 28, pp. 345–346.

Matthes and Rohdich discuss the unsaponifiable constituents of cacao butter, and describe two phytosterines which they were able to separate from the other constituents.—Ber. d. deutsch. chem. Gesellsch., Berl., 1908, v. 41, II, pp. 1591–1592.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report examining 4 samples of oil of theobroma; 1 was abnormal in saponification and iodine numbers.—(See also Proc. Pennsylvania Pharm. Ass., 1908, p. 77.)

OLEUM THYMI.

Schneider, Albert, asserts that *Thymus vulgaris* L., thrives well in California, where it is very common.—Pacific Pharmacist, 1908–9, v. 2, p. 471.

Hood, S. C. (Vermont Sta. Rpt., 1907, pp. 371–386), reports that the culture of thyme in Vermont is not likely to prove profitable.—Expt. Sta. Rec., 1908–9, v. 20, p. 335.

Bennett, C. T., discusses commercial thyme and origanum oils, giving a tabulated statement of their characters.—Pharm. J., Lond., 1908, v. 80, p. 803.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 101) report on a crystalline substance separated from a French thyme oil which had been kept for a long time.

Pearson, W. A., asserts that French chemists say that potassium hydroxide should be used in the assay for phenols, as sodium hydroxide will eliminate caryacrol.—Am. J. Pharm., Phila., 1908, v. 80, p. 78.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 148), in discussing the B. P. C. requirements for thyme oil, point out that only the rectified oils are colorless, and that they soon acquire the red-brown color of the crude oil; that the minimum figure for specific gravity at 15° should be 0.900; and that it is more practical to employ a 5 per cent solution of potassium hydroxide in determining the phenol content than a 15 per cent, as directed in the B. P. C. It

is also pointed out that thyme oil is probably obtained from a species of *origanum*.

Bennett, C. T., in discussing the B. P. C., says that he has observed the following limits for oil of thyme: Specific gravity, 0.905 to 0.925 (15.5° C.); phenols absorbed by 5 per cent potash solution (chiefly thymol), 18 to 45 per cent; soluble in 2 volumes of 80 per cent alcohol. *Origanum* oils vary in specific gravity from 0.915 to 0.980 (15.5° C.) and contain from 25 to 85 per cent of phenols (chiefly carvacrol).—*Pharm. J., Lond.*, 1908, v. 27, p. 624.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 133) call attention to the requirements of the Ph. Helv. IV for rectified thyme oil.

In discussing the Ph. Japon. III requirements for thyme oil (*Ibid.*, April, 1908, p. 126) they point out that this oil has mostly a reddish-brown color. Even the rectified oils frequently soon acquire again the red-brown color of the crude oil.

An unsigned article points out that in the Ph. Fr. V the specific gravity of oil of thyme is given as 0.909 to 0.950. To contain at least 20 per cent of phenols.—*Chem. & Drug., Lond.*, 1908, v. 73, p. 414.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 148), in discussing the Ph. Fr. V requirements for thyme oil, point out that this oil soon acquires a reddish color. If the figures given for the specific gravity of this oil (0.909 to 0.950) relate to an observation temperature of 15°, the lower limit is too high and should be reduced to 0.900; otherwise the specific gravity does not agree with the phenol content admitted.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report that 5 of the 9 samples of oil of thyme examined by them failed to conform to the U. S. P. tests.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 77.

Blome, Walter H., reports on 8 samples of oil of thyme. Four below phenol requirement. He understands that much of the commercial oil of thyme is made from the true oil of red thyme and thymen.—*Proc. Michigan Pharm. Ass.*, 1908, p. 94.

OLEUM TIGLII.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report that the 2 samples of croton oil examined by them were of U. S. P. quality.

OPII PULVIS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 29) report that the amount of crystallizable morphine in the 20 samples of powdered opium examined by them ranged from 10.55 to 13.86 per cent.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 77.

Vanderkleed, Charles E., reports 7 assays of opium powdered; 11.350 per cent lowest; 16.060 per cent highest; 12.560 average: 4 above and 3 below standard.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 88.

Bachman, Gustav, reports that the samples of powdered opium examined ranged from 11.29 to 12.17 per cent of morphine.—*Proc. Minnesota Pharm. Ass.*, 1908, p. 50.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 3 samples of powdered opium examined, 1 genuine and 2 adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 77.

Philipp Röder (*Jahresbericht*, Wien, 1908, pp. 108–109) reports on 6 samples of powdered opium which were found to contain from 9.20 to 14.25 per cent of morphine. The aqueous extract varied from 44.39 to 57.56 per cent, and the ash in 3 samples from 3.77 to 4.91 per cent.

OPIUM.

Harris, Ernest L., in a consular report from Smyrna points out that among the manifold products of Asia Minor none possesses a greater degree of importance, as far as the commercial interests of the country are concerned, than does opium.—*Oil, Paint and Drug Reporter*, New York, 1908, v. 73, April 20, p. 40.

Lloyd, John Uri, presents a comprehensive description, with illustrations, of a personal investigation of the cultivation of the opium poppy and of the gathering, inspecting, and marketing of opium in Smyrna.—*Midl. Drug.*, Columbus, 1908, v. 9, pp. 397–406. (See also *Pharm. Era.*, N. Y., 1908, v. 39, pp. 76–80; and *Spatula*, 1908, v. 14, pp. 239–243, 313–318.)

An editorial discusses the economic conditions prevailing in the opium market.—*Drug Topics*, New York, 1908, v. 23, p. 171.

An editorial note asserts that many efforts have been made in Europe to produce a quality of opium equal to that of Smyrna, but the attempts have been failures, for the reason that the Asia Minor product contains, on an average, about 10 per cent of morphine. Opium merchants in Smyrna say that the output in this country 100 years ago amounted to something like 500 baskets of 165 pounds each. In 1850 it had increased to 3,000 and in 1875 to more than 5,000 baskets. The annual output now varies anywhere between 4,000 to 8,000 baskets. The largest yield ever known was in 1902, when it amounted to 11,000 baskets. The 1907 crop was 4,000 baskets, against 9,000 in 1906, 3,500 in 1905, and 10,000 in 1904.—*Paint, Oil and Drug Review*, Chicago, 1908, v. 45, May 6, p. 26.

Ozman, Edward H., consul general at Constantinople, writes that the opium-producing poppy is sown in Asia Minor all along the

Anatolian Railway, from Gueyve, 97 miles by rail from Constantinople, up to the present terminus of the Koniah line, Bulgurlu, and to a small extent along the Angora line; also along the Smyrna-Cassba extension to where it joins the Koniah line, at Afion-Kara Hissar, which obtains its name in Turkish from its principal export, opium; and at Balikesser and Bigaditch, in the Province of Hudavendighiar. The opium produced in these districts is entirely known as "druggists."

The morphine percentage varies according to the climatic influences, and some districts may one year assay only 10 per cent. as against 11.5 to 12 per cent in other years.—*Ibid.*, 1908, v. 46, November 4, p. 24.

Stahl, A. F., reviews the cultivation and the use of opium in Persia.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 804.

Weigel, G., in commenting on the article by A. F. Stahl points out that some of the recent samples of Turkish opium would suggest the possible admixture of fruit pulp or fruit extracts.—*Pharm. Zentralh.*, 1908, v. 49, p. 958.

In connection with a prize offered under the provisions of the Hagen-Bucholz foundation for the year 1907-8, a compilation of the official methods for preparing tincture and extract of opium and of assaying these preparations is presented. The authorities quoted are: U. S. P., Ph. Svec., Ph. Ndl., Ph. Austr., Ph. Belg., and Ph. Helv.—*Apoth. Ztg.*, Berl., 1908, v. 23, pp. 37-38. 165-168.

Franke, M., discusses the estimation of morphine, codeine, and narcotine in opium, and presents a comparative compilation of the several processes that have been proposed.—*Ibid.*, 1908, v. 23, pp. 309. ff.

Caesar & Loretz (*Geschäfts-Bericht*, 1908, p. xliii) call attention to the discussion of opium assay methods by various authors and suggest that these several compilations should be instrumental in stimulating research for the purpose of developing a more satisfactory method than any now available.

Pearson, W. A., thinks it is impossible to adopt a method of assay for opium that will satisfy all analysts. He points out that conditions have much to do with the results, and suggests that it would be advisable to work as nearly as possible at the same temperature, about 25° C., allowing the freshly precipitated morphine to stand the same length of time, and use lime water that is U. S. P. strength.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 78.

Heikel, Gunnar, outlines a method for the quantitative estimation of alkaloids in aqueous extracts of opium by means of Mayer's reagent.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1213.

Moerk, Frank N., points out that extract of opium is directed to be assayed by a process in which all quantities are changed from those

used for opium and its other preparations, and that the U. S. P. directions for opium could be followed by using 6 gms. of extract in place of 4 gms.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 898.

Beal, Geo. D., calls attention to several points to be carefully observed when assaying tincture of opium by the official process.—Proc. Ohio Pharm. Ass., 1908, pp. 50–51.

Vanderkleed, Charles E., reports on 15 assays of opium; 10.200 per cent lowest; 17.450 per cent highest; 12.601 average. All above standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 25) report the examination of 17 samples of opium assaying between 9 and 13 per cent of morphine.

Candussio, G., points out that not a few extractive preparations precipitate more or less heavily on heating to 100° C. or more for the purpose of sterilizing. He outlines a method for sterilizing opium extract and removing the precipitate.—Pharm. Post. Wien, 1908, v. 41, p. 981.

Smith, Kline & French Co. (Analytical Report, 1908, p. 19) report that the 2 samples of extract of opium examined by them contained 23.5 and 22.97 per cent morphine, respectively.

An editorial points out that the Ph. Svec. IX directs that in the making of tincture of opium 10 gms. of the drug be mixed with double the quantity of washed and dried sand and this percolated with an alcoholic cinnamon water to produce 100 gms. of tincture, containing 1 per cent of morphine.—Am. Druggist, N. Y., 1908, v. 53, p. 344.

Hankey, W. T., reports some experiments in making tincture of opium U. S. P. VIII, with a tabulated statement of results.—Proc. Ohio Pharm. Ass., 1908, pp. 47–49.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 19) examined 91 samples of tincture of opium, 23 of which were deficient.

Smith, Kline & French Co. (Analytical Report, 1908, p. 38) report that the 8 samples of tincture of opium which they examined contained from 0.47 to 1.70 gms. of crystallizable morphine per 100 cc. of the tincture.

Barnard, H. E., reports on 8 samples of tincture of opium; only 2 contained sufficient morphine to meet the U. S. P. requirements.—Rep. Indiana Bd. Health, 1908, p. 335.

Fitz-Randolph, R. B., reports that of the 19 samples examined, 16 contained less crystallizable morphine than the standard requires. The average morphine content of these tinctures is about 1 gm. per 100 cc. Two of them contained respectively 0.75 and 0.63 gm. of morphine.—Rep. New Jersey Bd. Health, 1908, p. 227.

Fischer, Richard, reports 100 samples of laudanum analyzed, of which only 14 complied with the requirements of the last revision of the Pharmacopœia. Eight samples were slightly above the maximum legal strength, the highest containing 1.47 gms. of crystallizable morphine per 100 cc. Thirty-two samples were between five-sixths and full strength; 33 samples between two-thirds and five-sixths strength; 9 samples between one-half and two-thirds strength; while 4 samples fell below one-half strength, the lowest containing only 0.4483 gm. of crystallizable morphine in 100 cc.—*Proc. Wisconsin Pharm. Ass.*, 1908, p. 42. (See also *Rep. Dairy & Food Com.*, Wisconsin, 1909, p. 104.)

Salisbury, F. D., examined 10 samples of tincture of opium having from 0.951 to 1.32 morphine; from 4.3 to 6.68 extractive matter, and from 27.2 to 44.3 alcohol.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 78.

Dunlap, Renick W., reports on 23 samples of tincture of opium examined 7 pure and 16 adulterated.—*Rep. Dairy & Food Com.*, Ohio, 1909, p. 52.

McGill, A., reports upon 31 samples of tincture of opium examined: Within standard limits 16; above, 5; below, 10. In 1899, 15 samples examined showed morphine correct, 8; high, 2; low, 5.—*Bull. Lab. Int. Rev. Dept. Canada*, No. 168, 1908, p. 7.

Smith, Kline & French Co. (Analytical Report, 1908, p. 38) report that the morphine in 100 cc. in the 1 sample of deodorized tincture of opium which they examined was 1.223 gms.

Manseau, M., points out that the formula for paregoric differs materially in the several pharmacopœias, and criticises the formula proposed for the new French Codex.—*Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 166–168.

Rauber, E. G., suggests a method for the extemporaneous preparation of camphorated tincture of opium.—*Proc. Wisconsin Pharm. Ass.*, 1908, p. 31.

Lythgoe, Hermann C., reports that the 3 samples of camphorated tincture of opium examined were found to conform to the U. S. P. requirements.—*Rep. Massachusetts Bd. Health*, 1908, p. 612.

Dunlap, Renick W., reports on 1 sample of camphorated tincture of opium examined, which was found to be adulterated.—*Rep. Dairy & Food Com.*, Ohio, 1909, p. 52.

Sayre, L. E., reports that 2 samples of paregoric examined had an alcohol content of 20.3 and 50 per cent. respectively.—*Bull. Kansas Bd. Health*, 1908, v. 4, pp. 153, 154.

Barnard, H. E., reports on 15 samples of paregoric examined, and in most instances the composition was satisfactory; 2 samples were low in benzoic acid.—*Rep. Indiana Bd. Health*, 1908, p. 326.

The Pharm. J., Lond. (1908, v. 80, p. 769), reports a prosecution, at Smethwick for the sale of paregoric which did not contain tincture of opium.

The therapeutic committee of the British Medical Association suggests that opium plaster be deleted from the Ph. Brit., as it is of no therapeutic value.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

McCrae, Thomas, discusses the uses of opium in the treatment of some of the conditions occurring in typhoid fever.—J. Am. M. Ass., 1908, v. 51, p. 984.

Kemper, W. G., is reported to have discussed the use of certain drugs contrary to accepted methods, citing instances of good effects from opium in epileptic convulsions in children and the use of ergot in confinement cases.—*Ibid.*, 1908, v. 51, p. 524.

Jacobi, Abraham, is reported to have said that a child of 1 year having enteritis could take 0.002 gm. of opium, and that he had never seen opium poisoning under such treatment.—*Ibid.*, 1908, v. 50, p. 476.

A correspondent notes that the policy to which the Government of India has committed itself of restricting opium sales does not appear to have had the expected results. The returns which are published show that the Indian opium revenue for July is 500,000 rupees greater than the estimate and for the current official year to date 4,300,000 rupees greater than the estimate.—Chem. & Drug., Lond., 1908, v. 73, p. 539.

An editorial discusses the question of opium in the East.—*Ibid.*, p. 826.

Thompson, Ashburton, is said to have furnished the Premier of New South Wales with a report in which he expresses the belief that opium is less harmful than alcohol.—*Ibid.*, 1908, v. 73, p. 677.

Gordon, Alfred, discusses insanities caused by acute and chronic intoxication with opium and cocaine.—J. Am. M. Ass., 1908, v. 51, pp. 97–101.

Wright, Hamilton, discusses the objects of the United States Opium Commission and gives statistics concerning the opium and morphine traffic, with a view to its regulation.—*Ibid.*, 1908, v. 51, p. 688.

The editor discusses the letter of Wright mentioned above and comments on the extent of the opium evil.—*Ibid.*, 1908, v. 51, p. 678.

Tee Han Kee discusses the habitual use of opium as a factor in the production of diseases and the treatment of the opium habit. He points out that the treatment of the opium habit by such drugs as cocaine and heroin is worse than useless because the patient merely breaks off one habit to acquire another which may be worse.—Philippine J. Sc., 1908, v. 3, B. pp. 63–67.

An editorial points out that while the Chinese population of this country is smaller to-day than it was 30 years ago, the importation of opium prepared for smoking has increased more than 250 per cent, the amount last year being 157,000 pounds.—*Am. Druggist*, N. Y., 1908, v. 53, p. 94.

Lawton, Walter, in a popular article on stimulants and narcotics and their users and abusers, discusses the habitual use of opium and the effect of this drug on Europeans.—*Pharm. J.*, Lond., 1908, v. 26, pp. 569-570.

A number of references on the opium habit will be found in the *Index Medicus*, 1909, v. 7.

Harrison, E. F., presents some notes on the constituents of *Combretum sundaicum*, the Malayan antiopium plant. He reports examining both the raw as well as the roasted drug, with practically negative results so far as being able to separate active principles to which its reputed medicinal value might be due.—*Pharm. J.*, Lond., 1908, v. 26, pp. 52-54.

Lebeaupin and Jennings (*Bull. gén. de thérap.*, v. 155, p. 254, Febr. 1908) discuss the use of *Combretum sundaicum* in the treatment of the opium habit.—*Biochem. Centralbl.*, Leipz., 1908, v. 7, p. 421. (See also article by Silkworth, *N. York M. J.*, 1908, v. 87, pp. 1032-1034.)

Schneider, Albert, discusses the use of sow-thistle *Sonchus oleraceus* L. as a cure for the opium habit.—*Pacific Pharmacist*, 1908-9, v. 2, p. 113.

OPIUM DEODORATUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report assaying 1 sample of deodorized opium: crystallizable morphine, 13.3 per cent.

OPIUM GRANULATUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that the crystallizable morphine in the 10 samples of granulated opium examined by them ranged from 12.10 to 14.2 per cent.

PANCREATINUM.

Pearson, W. A., asserts that the U. S. P. assay for pancreatin is not ideal, as there is no sharp line between the dextrin reaction and the starch reaction. He points out that the five-minute digestion period must be accurately measured if comparative results are expected. Thirty seconds' difference in time of digestion will show results widely divergent.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 78.

"C. C." [C. Crinon?] notes that the proteolytic strength required by the Ph. Fr. V is not modified, it remains at 50; the amylolytic

strength is set down as 100.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 537.

Vanderkleed and Bernegau present a study of the possible interference of sodium bicarbonate in the testing of pancreatin and conclude that the presence of sodium bicarbonate in amounts greater than 33.3 per cent reduces the amylolytic power of pancreatin, as determined by the U. S. P. method. The reduction is greater as the amount of sodium bicarbonate is increased.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 941-943.

Robertson and Schmidt report observations on the part played by the alkali in the hydrolysis of proteius by trypsin.—*J. Biol. Chem.*, 1908-9, v. 5, pp. 31-48.

Hattori, T., discusses the use of gelatin for determining the activity of trypsin. He concludes that gelatin is digested much more rapidly by trypsin than is coagulated albumen, though the factors influencing digestion appear to differ, and it is therefore doubtful whether the gelatin digestion method can be adapted to the testing of trypsin.—*Arch. internat., de pharmacod. et de thérap.*, 1908, v. 18, pp. 256-263.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that 1 of the 9 samples of pancreatinum examined by them was low in strength.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 77.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 25) assert that only 5 of the samples of pancreatin examined by them would pass the assay processes of the U. S. P. They point out that more explicit directions are required, as to the strength and manner of adding the nitric acid to the milk.

Vanderkleed and Bernegau suggest that the compound pancreatic powder of the National Formulary be made up of 1 part pancreatin, 0.5 part of sodium bicarbonate, and 3.5 parts of sugar of milk, instead of 1 part pancreatin and 4 parts sodium bicarbonate.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 943.

Loeper and Esmonet discuss the comparative reabsorption of pancreatin and pepsin in the digestive tract, the action of these ferments on healthy and diseased intestines, and on general nutrition.—*Compt. rend. Soc. de biol. Par.*, 1908, v. 64, p. 310, ff.

PARAFFINUM.

An editorial note points out that the exports of paraffin and paraffin wax from the United States amounted to 178,709,678 pounds, valued at \$8,740,929. This vast sum was paid to oil refiners in this country for a material that a few years ago was considered waste. Assuming that the domestic consumption of paraffin is equal to the amount exported, the total value to the refiners would be about

\$17,500,000 annually.—Paint, Oil and Drug Review, Chicago, 1908, v. 46, November 18, p. 9.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that the melting points of the 4 samples of paraffin examined by them ranged from 50° to 57° C.

Abalo, Miguel A., reports the treatment of 5 cases of ozæna by the use of injections of solid paraffin.—Rev. Med. Cir. Habana, 1908, v. 13, pp. 316–319.

Pont (L'Odontol. Par. Dec. 15, 1907) discusses the treatment of nasal deformities by injections of paraffin by a modified Gersuny method. The Brockhärt and Lermoyez syringes offer the invaluable advantage of entirely eliminating the possibility of embolus formation and of causing so little pain as to render unnecessary the use of anaesthetics, either general or local.—Abst. Dental Cosmos, 1908, v. 50, p. 180.

Heidingsfeld, M. L., discusses the histo-pathology of paraffin prosthesis, and concludes that embolism is one of the greatest dangers attending it.—J. Am. M. Ass., 1908, v. 51, pp. 2028–2031.

For additional references on the use of paraffin see Index Medicus, 1909, v. 7.

PARALDEHYDUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that 2 of the 3 samples of paraldehyde examined by them conformed to the U. S. P. requirements; the other was abnormal in specific gravity, congealing point, and acidity.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 26) report that only 3 of the 12 samples of paraldehyde examined by them were free from aldehyde. With this exception, all satisfied the tests of the Ph. Brit.

Würschmidt, Augustus, discusses the use of paraldehyde in the treatment of mental diseases. Despite its taste and smell he considers it to be a valuable acquisition to materia medica. 5 grams of paraldehyde are considered to be superior to 2 grams of chloral.—Fol. Therap., Lond., 1908, v. 2, p. 17.

PAREIRA.

The therapeutic committee of the British Medical Association suggests that pareira and its preparation be deleted from the Ph. Brit., as they are of doubtful value.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Farwell, A. O., asserts that the chief substitute for pareira brava is a root of similar structure but much lighter. The rings of wood wedges have a greater tendency to separate one from another, and they do not project beyond the medullary rays. This has more the

appearance of a stem than of a root: the bark is of a greenish-brown color, but shows no trace of chlorophyll.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Sayre, L. E., points out that the menstruum for fluid extract of pareira was changed from 67 per cent alcohol and 10 per cent glycerin, U. S. P., 1890, to 57 per cent alcohol and 10 per cent glycerin, U. S. P., VIII.—Merck's Rep., N. Y., 1908, v. 17, p. 4.

Beringer, George M., outlines a formula for fluid glycerate of pareira.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 999.

PEPSINUM.

Gane and Webster discuss the assay of pepsin and comment on the method recently proposed by F. C. Koch [see Digest for 1907, Bulletin No. 63, p. 368], which they believe will give more uniform results than the official process.—Drug Topics, New York, 1908, v. 23, p. 276.

Pearson, W. A., asserts that it is difficult to press egg albumin through a No. 40 sieve. He suggests that the albumin be squeezed through strong cheesecloth while still warm: immediately weigh, add dilute acid, and shake vigorously. This method, he asserts, will completely disintegrate the albumin. Comparative results are only obtained by closely following every detail in the digestion.—Am. J. Pharm., Phila., 1908, v. 80, p. 78.

Harvey, T. F., reports that the most satisfactory way of obtaining good distribution of the albumin in the testing of pepsin is to employ stoppered bottles and to shake the sieved albumin with the acid water before adding the pepsin (in solution). With this modification there is little fault to be found with the process as merely demonstrating the solvent action of the pepsin.—Chem. & Drug., Lond., 1908, v. 72, p. 905.

"C. C." [C. Crinon?] notes that while the Elixir of Pepsin, Ph. Fr., V, is prepared with the same quantity of pepsin as was that of 1884, the pepsin is required to digest 100 times its weight of dried fibrin (instead of 50 times).—Répert. d. pharm. Par., 1908, v. 20, p. 536.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that all of the 50 samples of pepsin which they examined were satisfactory.

Colwill, A. W., assayed 12 samples of pepsin, one of which had a digesting power of 2,500; four, 2,750; five, 3,000; one, 4,500; and one, 6,000.—Proc. Massachusetts Pharm. Ass., 1908, p. 79.

The Pharm. J., Lond. (1908, v. 27, p. 783), notes that in a police court hearing the prosecution announced that, judging from a number of samples of pepsin examined, most of which were found to be deficient, the fault lay with the manufacturers.

Einhorn, Max. describes a simplification of the Jacoby and Solms ricin test for pepsin.—*N. Y. Med. Rec.*, 1908, v. 74, p. 351.

Roaf, Herbert E., outlines a new colorimetric method to show the activity of either "peptic" or "tryptic" enzymes.—*Biochem. J.*, Liverpool, 1908, v. 3, pp. 188–192.

Farr and Goodman discuss the clinical value of the quantitative estimation of pepsin and review some of the recent methods for the quantitative determination of the activity of pepsin. They point out that the method of Mette, as modified by Nirenstein and Schiff, compares well with other proposed methods or modifications.—*Arch. Int. Med.*, 1908, v. 1, pp. 648–660.

Gross, O. (Berl. klin. Wochenschr., 1908, v. 45, p. 643), outlines a simple method for the estimation of the activity of pepsin, by casein solution with hydrochloric acid and pepsin for a definite time in a thermostat and subsequently precipitating the unchanged casein with sodium acetate.—*Chem. Ztg.*, Repert., Cöthen, 1908, v. 32, p. 310.

Shaklee and Meltzer have demonstrated that solutions of pepsin shaken even for short periods are greatly diminished in strength, if shaken long enough the pepsin is completely destroyed. Shaking at 33° C. causes a more rapid destruction than at room temperature.—(Abstr.) *Am. J. Physiol.*, 1908, v. 23, p. xxix.

Briot, A., discusses the identity of parachymosin and pepsin.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 369–370.

Taylor, Alonzo Engelbert, reviews some of the literature relating to the question of the identity of pepsin and chymosin, and concludes that the data at present at hand are best interpreted as indicating that pepsin and chymosin are different substances.—*J. Biol. Chem.*, 1908–9, v. 5, pp. 399–403.

A number of references relating to the chemistry and properties of pepsin and of rennin are presented.—*Jahresb. ü. Tier-Chem. für* 1908, Wiesb., 1909, v. 38, pp. 360–369.

Lœper and Esmonet contribute a series of studies on pepsin and pancreatin.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, p. 188. ff.

Cantacuzene and Jonescu-Mihaesti discuss the precipitating action of serum on solutions of pepsin.—*Ibid.*, v. 65, p. 271.

Hugounenq and Morel publish the results of their researches on the constituents of pepsin, in connection with their contribution to the study of the constitution of the nucleo-proteids.—*Compt. rend. Acad. d. sc., Par.*, 1908, v. 147, p. 212.

The report of the council on pharmacy and chemistry (*J. Am. M. Ass.*, 48, 434, 533) shows that pepsin and pancreatin can not exist in one and the same solution for any reasonable length of time, and it is therefore recommended that no preparation claimed to contain both or all of the digestive ferments be approved by the council.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, No. 12, p. 1742.

Ilhardt, W. K., asserts that essence of pepsin can be greatly improved by adding charcoal, setting aside for several days with occasional agitation and then filtering. This makes a permanent, pleasant preparation with the disagreeable odor of pepsin almost entirely removed.—*Proc. Missouri Pharm. Ass.*, 1908, p. 94.

Heizer, J. W., presents a formula for essence of pepsin which he thinks is more beautiful than the official one, which it resembles, but is easier to make and meets all the requirements.—*Drug. Circ.*, N. Y., 1908, v. 52, p. 618.

PETROLATUM.

"P. T." summarizes the methods of analysis of petroleum proposed at the Third Congress of the Petroleum Industries.—*Ann. de Chim. analyt.*, Par., 1908, v. 13, p. 285.

Sayre, L. E., reports that the sample of petrolatum examined was of poor quality, in that it contained an appreciable quantity of coal oil, showing that it had not been sufficiently purified.—*Bull. Kansas, Bd. Health*, 1908, v. 4, p. 155.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that the 4 samples of petrolatum which they examined were satisfactory except for melting point, which was low.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 77.

Good, James M., asserts that the melting point of petrolatum can readily be raised by the addition of a small amount of hard paraffin. He recommends melting the substances together by the employment of a moderate heat and allowing the mixture to cool without stirring; agitation produces a granular product.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 972.

PETROLATUM ALBUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 31) report that all of the 36 samples of white petrolatum examined by them were satisfactory except for their low melting point.

Millington, W. I., suggests a mixture of spermaceti 10; white wax 15; and white petrolatum 75 parts as an ointment base, in place of white petrolatum, for use during the summer months.—*Bull. Pharm.*, Detroit, 1908, v. 22, p. 473.

Sayre, E. A., asserts that white petroleum as found in the market is an unsatisfactory product. It lacks the body and stability necessary to make ointments that are sightly and valuable.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 107.

PETROLATUM LIQUIDUM.

An abstract discusses the paper by J. Marcusson on the optical activity of liquid petrolatum.—*Pharm. Zentrallh.*, 1908, v. 49, pp. 107-108.

Harvey, T. F., reports that the specific gravity in the present pharmacopœia is too high, but there is little difficulty in getting oils of specific gravity about 0.880. When the specific gravity falls much below 0.880 the oil has frequently an objectionable odor or taste.—Chem. & Drug., Lond., 1908, v. 72, p. 905.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that all of the 18 samples of liquid petrolatum examined by them were low in specific gravity.

Schulz, Ferd., points out that commercial picric acid, when dissolved in benzol has the property of imparting a red color to mineral oils and proposes to use this reaction as a test for admixture of such oils to vegetable oils.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 292; Chem. Ztg. Cöthen, 1908, v. 32, p. 345. (See also Drug Topics, New York, 1908, v. 23, p. 358.)

PETROLATUM SAPONATUM N. F.

Franklin, J. H., points out that the B. P. C. applies the title "parogenum" to a combination of liquid paraffin and ammonium oleate similar to the petrolatum saponatum liquidum of the N. F. "Parogenum spissum" is the designation applied to the corresponding solid ointment base.—Pharm. J., Lond., 1908, v. 26, p. 674.

Kühl, Hugo, discusses the several formulas for vasoliments that have been offered and asserts that the most satisfactory product is obtained by heating the mixture of spirit of ammonia, oleic acid, and liquid petrolatum so as to get rid of the alcohol.—Pharm. Ztg., Berl., 1908, v. 53, p. 251.

Lorenzen, J., criticizes the communication by Kühl and does not agree with him that heating the mixture to drive off the alcohol in anyway improves the resulting preparation.—*Ibid.*, 1908, v. 53, p. 288.

Welmans, P., also criticizes the communication by Kühl and asserts that there is no difficulty in securing instantaneous and complete saponification without the use of heat.—*Ibid.*, 1908, v. 53, p. 319.

An abstract reproduces several formulas for solution of active medicaments in a menstruum similar to saponated petrolatum.—D.-A., Apoth.-Ztg., 1908-9, v. 29, p. 61.

Weydenberg discusses several previous communications and also outlines a method for preparing a solution of iodine in saponated petrolatum that does not stain.—Pharm. Ztg., Berl., 1908, v. 53, p. 340.

Cappenberg, H., outlines qualitative and quantitative methods for determining the nature and the quantity of iodine present in iodine vasogen and similar preparations.—*Ibid.*, 1908, v. 53, p. 514.

PHENOL.

Pearson, W. A., asserts that care must be taken in obtaining samples of phenol for analysis. He suggests that a good way is to cut the crystals from a drum that has just been opened and immediately transfer to a perfectly dry bottle, melt, and obtain the congealing point.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 78.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that 4 of 18 samples of phenol examined by them had congealing points below the U. S. P. limits.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 77.

Dohme and Engelhardt report on 3 samples of carbolic acid which assayed less than 96 per cent of absolute phenol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 816.

Dunlap, Renick W., reports on 1 sample of carbolic acid examined, which was found to be adulterated.—*Rep. Dairy & Food Com. Ohio*, 1909, p. 52.

Heusler, P. I., reports that 2 samples of carbolic acid examined contained less than the required amount of C_6H_5OH .—*Proc. Maryland Pharm. Ass.*, 1908, p. 34.

Sayre, L. E., reports 2 samples examined, 1 of which contained but 78.73 per cent phenol. He also reports 11 samples of liquid phenol examined, all below standard, ranging from 71.19 to 82.9 per cent.—*Bull. Kansas Bd. Health*, 1908, v. 4, pp. 63, 182, 183, 248.

van Wermeskerken, J. L., reports a sample of phenol as being largely liquefied.—*Pharm. Weekblad.*, 1908, v. 45, p. 211.

Philipp Röder (Jahresbericht, Wien, 1908, p. 15) reports on 3 samples of phenol, only 1 of which was objected to because of a slight reddish coloration. Also discusses the tests for phenol embodied in the Ph. Helv. IV.

Hills, Walter, believes that in making liquefied phenol sufficient water should be added to produce 1 fluid drachm from 50 grains of phenol; the additional water thus introduced is useful in preventing crystallization of the acid.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 4.

An abstract gives a formula for making carbolic acid tablets, using a mixture of 3 molecules of phenol and 1 molecule of potassium carbolate.—*Drug Topics*, New York, 1908, v. 23, p. 306.

Gibbs, H. D., discusses the compounds which cause the red color in phenol and reports observations to show that the major portion of the color in red phenol is produced by quinone and quinone derivatives in solution.—*Philippine J. Sc.*, 1908, v. 3, A., pp. 361-370.

Bougault makes a communication on the estimation of phenol and salicylic acid by the process of Messinger and Vortmann. He finds that the compounds obtained by acting on phenol in the presence

of alkalies are not definite products: their formulas vary according to the conditions.—*Répert de pharm., Par., 1908, v. 20, pp. 377, 391-392.* (See also *Compt. rend. Acad. d. sc. Par., 1908, v. 146, p. 1403.*)

Herzog, J., presents some observations on the use of diphenyl-urea chloride as a reagent for phenols and phenol-like bodies.—*Arb. a. d. pharm. Inst. d. Univ., Berl., 1908, v. 6, p. 216.*

Engelhardt and Jones discuss the detection of phenol and cresol acids in salicylic acid and its derivatives.—*Proc. Am. Pharm. Ass., 1908, v. 56, pp. 866-869.*

Puckner and Clark discuss the estimation of phenol and present some observations on the results obtained by them in estimating phenol in tablet form with other medicaments.—*Ibid., 1908, v. 56, pp. 824-830.* (See also *J. Am. M. Ass., 1908, v. 51, p. 330.*)

Wake and Ingle present a communication on the iodine values of the phenols, in which they call attention to the misinterpretations that have been made in connection with previous communications by them.—*J. Soc. Chem. Ind., Lond., 1908, v. 27, pp. 315-316.*

Taylor, Alonzo Englebert, reports observations on the antagonism of alcohol to phenol which lead him to conclude that the effect observed in therapeutic practice rests on some physical basis and is not due to chemical detoxication of phenol by ethyl alcohol.—*J. Biol. Chem., 1908-9, v. 5, pp. 319-321.*

Diekman, Geo. C., thinks that phenol ointment made according to the present U. S. P. formula is too soft, and suggests the addition of white wax or paraffin.—*Am. Druggist, N. Y., 1908, v. 32, p. 90.* (See also *Bull. Am. Pharm. Ass., 1908, v. 3, p. 84.*)

Gordon, A. Knyvett, (*British Jour. of Nursing*) points out that most nurses have exaggerated notions of the value of a disinfectant, especially of carbolic acid. Disinfectant solutions are chiefly valuable for keeping sterile articles. He also points out that carbolic acid is not a strong disinfectant, and is both poisonous and expensive.—*Drug Topics, New York, 1908, v. 23, p. 202.*

"T. L." discusses the relation of chemical constitution to disinfection value of phenol compounds. He concludes that the introduction of a halogen atom into the benzol nucleus of the phenol increases its value.—*Pharm. Prax., 1908, v. 7, pp. 437-439.*

An editorial article comments on the use of phenol in the treatment of tetanus as reported by C. Allievo (Buenos Aires) in *La Semana Médica*. The editor calls attention to the similar use of phenol by others and states that Symmers reviews 75 cases treated in this way, with a mortality of only 23 per cent.—*Lancet, 1908, v. 175, p. 1027.*

Moore, James E., discusses local applications in surgery, and states that the application of 95 per cent carbolic acid destroys all bacteria, and if it is followed by alcohol in two minutes there is little loss of

tissue and no fear of absorption.—*J. Am. M. Ass.*, 1908, v. 50, pp. 2121–2123.

Babes and Bobes conclude from their researches on the action of phenic acid on rabies virus that the process of Fermi is far from being inoffensive; they hesitate to employ in the antirabic treatment of man a substance having an effect so inconstant in the rabbit.—*Compt. rend. Soc. de biol. Par.*, 1908, v. 65, p. 695.

Worthington, George B., reports a case of gangrene resulting from the application of a solution of carbolic acid to a crushed thumb.—*J. Am. M. Ass.*, 1908, v. 50, p. 453.

Levin, Isaac, concludes his comments on four cases of carbolic gangrene with the statement: "It is never of much use and too frequently harmful."—*Med. Rec.*, N. Y., 1908, v. 73, p. 146.

von Herff, O. (*München. med. Wehnschr.*, v. 55, No. 7), has observed injury to the uterus from zinc chloride and states that still better results can be obtained in endometritis by using an alcoholic solution of phenol. The technique is discussed.—*J. Am. M. Ass.*, 1908, v. 50, p. 1086.

McLaughlin, W. B., asserts that a mixture of 25 parts of phenol and 75 parts of solution of formaldehyde is to be preferred in disinfecting rooms. He found that his results were so remarkable that he was inclined to question the accuracy of his own work.—*Sc. Am. Suppl.*, 1908, v. 66, p. 171.

An abstract asserts that the recently deceased Russian privy counselor, Prof. Modest Kitary, originated the following formula for rosin-carbolic fluid: 2,250 parts of caustic soda, 4,500 parts of tar, 2,250 parts of acid carbolic flav., 41,000 parts of water. Take 20,500 parts of water, boil it, then add the caustic soda so that it is completely dissolved, then add the tar and carbolic acid. The hot fluid must be stirred until all is dissolved, and then add 20,500 parts of water to it.—*Ibid.*, 1908, v. 66, pp. 397–398.

An editorial (*Lancet*, 1908, v. 174, p. 1289) comments on the lecture and demonstration before the London School of Tropical Medicine, by Samuel Rideal, of the Rideal-Walker method of standardization of disinfectants.

An abstract from "Dental Office and Laboratory" points out that glycerin will counteract the effects of carbolic acid on the mucous membrane of the mouth. It is more pleasant than vinegar and fully as potent.—*Drug Topics*, New York, 1908, v. 23, p. 374.

Maberly (*Lancet*, Aug. 3, 1907) considers the action of tincture of iodine in cases of poisoning by phenic acid as superior to that of the alkaline sulphates.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 406.

Balm, Edward, reports the remarkable recovery of a patient, aged 19, after having accidentally swallowed 4 ounces of pure car-

holic acid. As a last resort, an ounce of blood was removed from the base of each lung by wet cupping; recovery practically complete in five hours.—*Lancet*, 1908, v. 174, p. 1344.

For references on cases of carbolic-acid poisoning, see *Index Medicus*.

PHENOLPHTHALEIN.

Kollo (*Pharm. Praxis*, 1902, No. 8) recommends a method for the determination of phenolphthalein which depends on its precipitation as tetraiodide.—*Proc. Am. Pharm. Ass.*, 1909, v. 57, p. 388.

Keenan, Thomas J., reports that some pharmacists are now adding phenolphthalein in small doses to compound licorice powder and report wonderfully satisfactory results.—*Proc. New York Pharm. Ass.*, 1908, p. 210.

Fleig, M. C., discusses the mechanism of the purgative action of phenolphthalein and of soda phthalyl and reviews some of the theories that have been advanced by different observers.—*Arch. internat. de pharmacod. et de thérap.*, 1908, v. 18, pp. 351–371. (See also *Compt. rend. Acad. d. sc. Par.*, 1908, v. 146, pp. 367–370.)

Daguin, A., reports observations on the action of phenolphthalein on intestinal contraction and secretion. He concludes that the pharmacodynamic action of phenolphthalein is exercised throughout the intestine and that this substance augments by direct contact the aqueous elimination and contractibility of that organ.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 153–155.

Elmer, Warren Philo, discusses the action and dosage of phenolphthalein, gives the results of his experiments on three dogs, and a summary of 116 cases in dispensary practice.—*Med. Rec., N. Y.*, 1908, v. 74, p. 838.

Pietro, E. (*Gazz. d. Osp.*, 1907, p. 96), presents a pharmacologic study of phenolphthalein.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 179.

In answer to a request, the editor of *Queries and Minor Notes* discusses the physiologic action, dosage, and administration of phenolphthalein.—*J. Am. M. Ass.*, 1908, v. 51, p. 1886.

Gillette, H. F., states that a child, aged 3, took 25 grains of phenolphthalein in 1-grain tablets, but suffered no ill effects.—*Ibid.*, 1908, v. 51, p. 1782.

For additional references on the action and dosage of phenolphthalein, see *Index Medicus*.

PHENYLIS SALICYLAS.

Seidell, A., points out that the U. S. P. requires that phenyl salicylate dissolve in 2333 parts of water and in 5 parts of alcohol. His determinations indicate that it dissolves in 4.65 parts of alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 529.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that the 5 samples of phenyl salicylate which they examined were satisfactory.

Seoville, W. L., found 1 lot containing a small amount of salicylic acid.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 773.

Byrd, P. W., outlines a method for coating pills with salol.—*Pacific Pharmacist*, 1908-9, v. 2, p. 117.

An abstract from *Journal de Médecine de Bordeaux* calls attention to the possible danger of using salol in dentifrices and the production of eczema on the lips and in the buccal cavity from its use.—*Drug Topics*, New York, 1908, v. 23, p. 375.

PHOSPHORUS.

Stone, George W. (from a report of the U. S. Geological Survey), reviews the production of phosphorus, the several methods employed, and the material used.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 839-840.

Cohen and Olie report observations in connection with allotropic forms of phosphorus.—*Chem. Weekblad*, 1908, v. 5, p. 221.

Scharff, Ernst, discusses the phosphorescence of phosphorus and the behavior of some of the combinations of phosphorus.—*Ztschr. f. physik. Chem.*, 1908, v. 62, pp. 179-193.

Korte, Hugo, discusses the keeping qualities of phosphorated oil and points out that 1 per cent of phosphorus in oil of almonds, with 1 per cent of oil of lemon, is quite stable.—*Pharm. Ztg.*, Berl., 1908, v. 53, pp. 655-656.

The Therapeutic Committee of the British Medical Association suggests that pilula phosphori be deleted from the *Ph. Brit.*, as it is an inefficient pill.—*Pharm. J.*, Lond., 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

Raeuber, E. G., details a method for the manufacture of phosphorus paste.—*Proc. Wisconsin Pharm. Ass.*, 1908, p. 31.

Southworth, Thomas S., reports that the use of phosphorus in a case of rachitis was followed by remarkable improvement in dentition and in the ability to walk.—*J. Am. M. Ass.*, 1908, v. 50, p. 91.

In discussion C. G. Kerløy stated that an assistant had suggested the treatment of alternate cases of rachitis with phosphorus, the others without, and they had been unable to see any advantage from the phosphorus in those cases receiving it.

Gilbert, R. B., also disagreed as to the value of phosphorus in rachitis and considered that it had no effect in cases in which he tried it.—*Ibid.*, 1908, v. 50, p. 91.

di Cristina, Giovanni, discusses the degeneration of several organs caused by phosphorus poisoning, and reports observations on the behavior of the heart of frogs under the influence of chronic phosphorus poisoning.—*J. de physiol. et de pathol.*, 1908, v. 10, pp. 17-31.

Porges and Pribram report observations on the chemical changes brought about in cases of phosphorus poisoning.—Arch. f. exper. Path. u. Pharmakol., Liepz., 1908, v. 59, pp. 20–29.

Edgeworth and Hall (Med. Chronicle, Manchester [Eng.], March) report a case of phosphorus poisoning, with a study of the physiologic chemistry of the changes observed.—J. Am. M. Ass., 1908, v. 50, p. 1656.

The regular correspondent in Vienna states that the Government has issued new rules regulating the manufacture of phosphorus matches. In ten years 382 cases of phosphorus necrosis were reported.—*Ibid.*, 1908, v. 50, p. 701.

PHYSOSTIGMA.

Heikel, Gunnar, reports experiments with Mayer's reagent as a quantitative precipitant for physostigmine.—Chem. Ztg., Cöthen, 1908, v. 32, p. 1187.

Carr and Reynolds found that *Physostigma venenosum* varied from 0.04 per cent to 0.27 per cent. eserine.—Pharm. J., Lond., 1908, v. 80, p. 543.

Smith, Kline & French Co. (Analytical Report, 1908, p. 30) report that the ether soluble alkaloids, in the 2 samples of physostigma examined by them, were 0.15 and 0.14 per cent, respectively.

Vanderkleed, Charles E., reports 2 assays of calabar bean: 0.170 per cent. 0.218 per cent. Both above standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Webster, M. H., reports examining 1 sample of extract of physostigma, 10 years old, which was found to contain 2.90 per cent of alkaloids (U. S. P.).—Chem. & Drug., Lond., 1908, v. 73, p. 172.

Smith, Kline & French Co. (Analytical Report, 1908, p. 19) report that they found 1 sample of extract of physostigma containing 2.25 per cent of ether soluble alkaloids. They also report (p. 22) that the ether soluble alkaloids in the one sample of fluid extract of physostigma examined by them was 0.37 per cent.

PHYSOSTIGMINÆ SALICYLAS.

Harnack, Erich, discusses the action of physostigmine on muscular organs.—Ztschr. f. exper. Path. u. Therap., 1908, v. 5, pp. 194–203.

Fardon, Harold J., reports observations on the action of physostigmine on the mammalian heart.—Biochem. J., Liverpool, 1908, v. 3, p. 411.

Edmunds and Roth report the results of their experiments concerning the action of curare and physostigmine upon nerve endings or muscles. On the fowl, physostigmine produces a tonic contraction by direct action on the muscle cell, and this contraction differs from

previously described muscle effects produced by physostigmine in that it is not affected by atropine. A direct antagonism between physostigmine and curare is shown.—*Am. J. Physiol.*, 1908, v. 23, pp. 28-45.

Joseph, Don R., finds that magnesium unquestionably abolishes eserine tremor; that magnesium has a certain value as an antidote for eserine poisoning, and that magnesium has no influence whatever upon eserine myosis.—*Ibid.*, 1908, v. 23, pp. 215-225.

Maurel, E., contributes a note on the convulsing action of eserine sulphate in strychninized frogs.—*Compt. rend. Soc. de biol. Par.*, 1908, v. 65, p. 120.

von Hippel (*Zentralbl. f. Chirurg.* 1907, No. 46) reports on the value of eserine in the after treatment of laparotomy.—*Merck's Ann. Rep.*, 1908, Darmstadt, 1909, v. 22, p. 271.

Elphick, Edward, reports a case of physostigmine poisoning in a dog, with subsequent recovery.—*Vet. J., Lond.*, 1908, v. 64, pp. 346-347.

Maurel, E., reports observations on the convulsion producing action of eserine sulphate and the influence of strychnine thereon.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 65, pp. 120-122.

PHYTOLACCA.

Beringer, George M., outlines a formula for fluid glycerate of phytolacca root, but does not consider the preparation satisfactory. Probably poke root yields too much to solution to permit of a preparation of this strength.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 999.

Foltz, K. O., asserts that phytolacca is indicated in conjunctival conditions where the mucous glands are distended with secretion. If the lymphatic glands of the face or neck are also affected, it is an additional indication.—*Eclectic M. J., Cincin.*, 1908, v. 68, p. 34.

March, S. F., asserts that phytolacca is indicated in cases of cancer of the breast because of its direct influence on glandular structures. It can be used both locally and internally in the proper doses.—*Tr. Nat. Eclect. M. Ass.*, 1908, v. 36, p. 114.

PILOCARPINÆ HYDROCHLORIDUM.

Langard, A., found pilocarpine hydrochloride containing 25 per cent sulphonat.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 773.

Veley, Victor Herbert, discusses the affinity of pilocarpine derivatives for hydrochloric acid and concludes that in the case of this alkaloid the value of one group is intermediate between that of ammonia and the limit value of the methyl-orange method, whilst that of the other is equal to those of true amphoteric electrolytes.—*J. Chem. Soc., Lond.*, 1908, v. 93, pp. 2117, 2122.

Senta, S., reports observations on the absorption of O_2 and the liberation of CO_2 under the influence of pilocarpine by various tissues.—Arch. internat. de pharmacod. et de therap., 1908, v. 18, pp. 230-232.

Barcroft, Joseph, describes and figures the action of pilocarpine in diminishing the action of the heart.—Ergeb. d. Physiol., 1908, v. 7, p. 724.

MacLean, Hugh, presents some observations on the action of pilocarpine on the hearts of certain vertebrates, with observations on seasonal changes.—Biochem. J., Liverpool, 1908, v. 3, pp. 1-27.

McQueen, J. M., presents a preliminary communication of some observations to determine the action of pilocarpine on the heart.—*Ibid.*, v. 3, pp. 402-404.

Fardon, Harold J., reports observations on the action of pilocarpine on the mammalian uterus.—*Ibid.*, v. 3, p. 411.

Doyon, M., reports observations on the comparative action of choline and pilocarpine on the glycogen content of the liver.—Compt. rend. Soc. de biol., Par., 1908, v. 64, p. 1056.

Beco and Plumier report observations on the action of pilocarpine and of atropine on the circulation and on diuresis.—J. de physiol. et de pathol., 1908, v. 10, pp. 32-43.

Rous, F. Peyton, discusses the effect of pilocarpine on the output of lymphocytes, and concludes that the intravenous injection of pilocarpine nitrate causes in the dog a rapid and considerable increase in the output of lymphocytes through the thoracic duct, and that the corresponding lymphocytosis induced by the drug in the blood of this animal is not profound. Increased cell output with the lymph will explain a large part, if not all, of it.—J. Exper. M., N. Y., 1908, v. 10, pp. 329-342.

Gmelin, W. (Monatsh. f. prakt. Tierheilkunde, 1908, v. 19, p. 360), reports observations on the blood pressure and secretion pressure reducing action of pilocarpine.—Biophysik. Centralbl., Leipz., 1908, v. 3, p. 558.

An abstract from "The Hospital" says that Pringle reports the case of a patient who entirely lost the hair of his scalp and in whom vigorous local treatment had altogether failed. Nitrate of pilocarpine, 0.01 gm., was then injected into the scalp hypodermically. In a week there was a growth of downy hair over the scalp. The dose was increased to 0.03 gm. with satisfactory results.—Drug Topics, New York, 1908, v. 23, p. 72.

PILOCARPUS.

The Therapeutic Committee of the British Medical Association suggests that *jaborandi folia* and preparations are variable in composition. Pilocarpine possesses all the action of the crude drug.—

Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., Lond., 1908, v. 2, p. 320.)

Umney and Bennett assert that the U. S. P. assay process for pilocarpus is fairly satisfactory, and is, perhaps, the best yet devised. Separations are a little difficult owing to the presence of mucilaginous matter. *Pilocarpus microphyllus* is more uniform than other species, and should alone be adopted in the next edition of the Ph. Brit.—Pharm. J., Lond., 1908, v. 27, p. 345. (See also Year-Book of Pharmacy, London, 1908, p. 516.)

Caesar & Loretz (Geschäfts-Bericht, 1908, p. civ) outline Fromme's modification of the Keller method for the assay of pilocarpus.

McKesson, Donald, asserts that jaborandi leaves are occasionally found to be entirely inert; this condition is thought to be caused by improper curing when the leaves are gathered.—Proc. N. W. D. A., 1908, p. 107.

Rusby, H. H., found one lot of jaborandi labeled "Piper."—Proc. Am. Pharm. Ass., 1908, v. 56, p. 770.

Gane, E. H., reports a lot of black jaborandi which assayed only 0.05 per cent of pilocarpine.—*Ibid.*, v. 56, p. 770.

Smith, Kline & French Co. (Analytical Report, 1908, p. 31) report that the total alkaloids in the one sample of pilocarpus examined by them were 0.102 per cent.

Schneider, Albert, reports on one sample of pilocarpus which was found adulterated with some related leaves rich in brown resin (*P. spicatus*).—Pacific Pharmacist, 1908-9, v. 2, p. 393.

Gane and Webster point out that a lot of large-leaved jaborandi was recently offered, which on examination was found to be the so-called black jaborandi, which is medicinally worthless. An assay yielded only 0.05 per cent of an alkaloid or alkaloids.—Drug Topics, New York, 1908, v. 23, p. 165.

Carr and Reynolds found *Pilocarpus jaborandi* to vary in pilocarpine nitrate from a quantity too small to estimate up to 0.05 per cent. They state that the official drug rarely contains sufficient pilocarpine to estimate, and it is most anomalous that *Pilocarpus jaborandi* should be the official variety, while the very much cheaper *Pilocarpus microphyllus*, which is comparatively rich in alkaloid, is not recognized. This they found to vary from a quantity too small to estimate up to 0.99 per cent pilocarpine nitrate.—Pharm. J., Lond., 1908, v. 26, p. 543.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 20) report a sample of jaborandi leaves containing only 0.03 per cent of alkaloid. They think that this was caused to some extent by the length of time which the leaves had been stored.

Sayre, L. E., reports a sample of fluid extract of jaborandi deteriorated.—Bull. Kansas Bd. Health, 1908, v. 4, p. 296.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22) report 0.068 gm. alkaloids in 100 c. c. of the one sample of fluid extract of pilocarpus examined by them.

Beringer, George M., outlines a formula for fluid glycerate of pilocarpus with the procedure to be followed, and asserts that the precipitate formed in this product was not appreciable. The preparation is rich in odor and taste of the leaf, and this should be an ideal form of administering the drug. It mixes clear with water, sirup, or diluted alcohol and turbid with alcohol. Assayed by the official process for assaying the fluid extract of pilocarpus, it yielded 0.35 gm. of alkaloids in 100 c. c.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 999.

Helbing, H. H., asserts that the uses of pilocarpus are numerous from the fact that it increases retrograde metamorphosis and especially elimination through the skin.—*Tr. Nat. Eclect. M. Ass.*, 1908, v. 36, p. 60.

PILULÆ.

Wild thinks it inadvisable to direct that pills be made to a definite weight.—*Pharm. J., Lond.*, 1908, v. 26, p. 384.

An abstract calls attention to the use of two parts of kaolin and one part of dried sodium sulphate, with sufficient water to moisten, as an excipient for pills of readily decomposed chemicals such as silver nitrate, potassium permanganate, gold chloride, and mercuric iodide.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 138.

An unsigned article describes and figures a small hand apparatus for the production of pills in any quantity.—*Pharm. Post. Wien*, 1908, v. 41, p. 433. (See also *Ztschr. d. allg. österr. Apoth.-Ver.*, *Wien*, 1908, v. 46, pp. 192–193.)

An unsigned article reviews the observations made by E. Rieben on the disintegration of pills in the gastro-intestinal canal and the fact that coated pills were found to be more slowly dissolved than those not coated.—*D.-A. Apoth.-Ztg.*, N. Y., 1908–9, v. 29, p. 24.

An abstract from *Pharm. Ztg.* (lii, pp. 555–556) presents a number of formulas for keratin-coated pills.—*Drug Topics*, New York, 1908, v. 23, pp. 6–8.

Byrd, P. W., finds that the addition of a little balsam of tolu will overcome the brittleness of salol-coated pills.—*Pacific Pharmacist*, 1908–9, v. 2, p. 117.

Alcock, F. H., found that a sample of silver foil, with which he was about to coat pills, which was "made in Germany," and labeled "Silver leaf," consisted of impure aluminium.—*Pharm J., Lond.*, 1908, v. 27, p. 653.

Abernethy, James, makes certain suggestions for the limits of ash in pills.—*Pharm. J., Lond.*, 1908, v. 80, p. 146.

PILULÆ ANTIPERIODICÆ N. F.

Gane and Webster point out that the note appended to the N. F. formula for Warburg's pills is incorrect, and that as a matter of fact each pill does not represent 1 fluidrachm of Warburg's tincture, as many of the more important drugs have been omitted entirely. They point out that the pill formula has evidently been adopted from that used by the United States Army Medical Department, while the tincture formula is based on Warburg's original recipe, which contained the old *confectio damocratis*.—*Drug Topics*, New York, 1908, v. 23, p. 165.

Schieffelin, William J., points out that in the pills of Warburg's tincture five of the ingredients of the tincture are omitted, including opium.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 54.

PILULÆ FERRI CARBONATIS.

Lorenzen, J., suggests that the Ph. Germ. directions for making Blaud's pills be thoroughly revised. He asserts that a mass prepared by melting the salts on a water bath is quite stable and will keep for some time.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 295.

A correspondent suggests that in the next edition of the Ph. Germ. Blaud's pill be directed to be made with sodium bicarbonate in place of potassium carbonate so as to avoid the depressing heart action of the potassium ion.—*Pharm. Ztg.*, Berl., 1908, v. 53, p. 260.

A comment on an abstract from the *Journal of the American Medical Association* asserts that Blaud's pills do not readily deteriorate if they have been properly prepared and preserved.—*Drug Topics*, New York, 1908, v. 23, p. 56.

Wells, G. Harlan, in discussing the treatment of pulmonary tuberculosis asserts that iron in the form of Blaud's mass may be given alone or combined with quinine.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 601.

PIMENTA.

The therapeutic committee of the British Medical Association suggests that pimenta and its preparations be deleted from the Ph. Brit., as they are unnecessary.—*Pharm. J.*, Lond., 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

Spaeth, Eduard, describes pimenta and discusses the structure and composition of the true drug and some of its adulterants.—*Pharm. Zentralh.*, 1908, v. 49, pp. 673-675.

Petkoff, N., reports a number of observations on the ash content of pimenta, the per cent insoluble in hydrochloric acid and the alkalinity of the ash. Two samples of powdered pimenta, of known origin, gave 3.25 and 4.20 per cent of ash, respectively, while 8 other

samples varied from 5.9 to 11.7 per cent of ash.—Ztschr. f. öffentl. Chem., 1908, v. 14, p. 81.

Kebler, L. F., reports on a sample of pimenta which contained nut shells, mustard hulls, and leguminous seed.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 777.

Barnard, H. E., reports that, of the 43 samples of allspice examined, 4 proved to be below standard, a percentage of adulteration of 9.3.—Rep. Indiana Bd. Health, 1908, p. 199.

Sayre, L. E., reports 3 samples of allspice examined, 1 had a high ash content, another an abnormal amount of stone cells and 1 was weak.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 18, 63, 298.

Fitz-Randolph, R. B., reports that of 68 samples of ground allspice, none were found to be adulterated.—Rep. New Jersey Bd. Health, 1908, p. 221.

Schneider, Albert, reports 3 samples of allspice; 2 pure and 1 adulterated with 10 per cent allspice screenings.—Pacific Pharmacist, 1908-9, v. 2, p. 391.

PIPER.

The therapeutic committee of the British Medical Association, suggests that piper nigrum be deleted from the Ph. Brit., as it is unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Spaeth, Eduard, discusses the pharmacognostic characteristics and the composition of the several varieties of pepper, some of the adulterants that have been met with and the detection of the latter in whole as well as in powdered pepper.—Pharm. Zentralh., 1908, v. 49, pp. 648-661. (See also Ztschr. f. Unters. Nahr. u. Genussm., 1908, v. 15, pp. 472-484.)

Kraemer and Sindall present the results of a chemical and microscopical examination of black pepper. They include a number of illustrations and a bibliography.—Am. J. Pharm., Phila., 1908, v. 80, pp. 1-11.

Weikel asserts that since the passage of the pure food and drugs act pepper hulls are the principal adulterant of black pepper, and that hulls low in ash are selected for this purpose. He says that some of the ground black peppers of the market are composed of cheap grades of white pepper and pepper hulls.—*Ibid.*, 1908, v. 80, p. 50.

Woolsey, J. F., reports that the ash from powdered pepper usually contains an excess of matter insoluble in acid, which the millers claim to be "sand resulting from the milling."—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Graff, G., presents a comprehensive paper in which he discusses the estimation of black pepper, the characteristic properties of the sev-

eral kinds of pepper and their composition.—*Ztschr. f. öffentl. Chem.*, 1908, v. 14, pp. 425–447.

Rusby, H. H., reports that olive-pit powder is found largely in ground black pepper.—*Drug. Circ.*, N. Y., 1908, v. 52, p. 370.

Kebler, L. F., reports on 30 samples of adulterated pepper, which contained leguminous starch, pepper shells, olive pits, wheat starch, cornstarch, linseed, mustard hulls, coffee hulls, and a variety of other substances.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 776.

Fitz-Randolph, R. B., reports that of the 262 samples of black pepper examined 13 were found to be adulterated.—*Rep. New Jersey Bd. Health*, 1908, p. 221.

Barnard, H. E., reports that of the 90 samples of pepper examined 2 were below standard; percentage of adulteration, 2.2.—*Rep. Indiana Bd. Health*, 1908, p. 199.

Sayre, L. E., reports that of 6 samples of pepper examined 1 was illegal.—*Bull. Kansas Bd. Health*, 1908, v. 4, pp. 18, 63, 68, 181, 298.

Fischer, Richard, reports on 80 samples of black and white pepper examined, 22 of which were found adulterated, the most common adulterant being a mixture of ground olive pits with roasted cereals.—*Rep. Dairy & Food Com.*, Wisconsin, 1909, p. 116.

Schneider, Albert, reports on 4 samples of black pepper; 3 pure and 1 adulterated with black pepper refuse and 20 per cent of sand.—*Pacific Pharmacist*, 1908–9, v. 2, p. 392.

Potter, Hubert F., reports on 6 samples of black pepper examined; 5 up to standard, 1 had olive stones, coffee hulls, etc.—*Rep. Dairy Com. Connecticut*, 1908, p. 92.

McGill, A., reports upon the examination of 298 samples of ground pepper: White pepper, 146 samples, 106 genuine, 8 doubtful, 32 adulterated; black pepper, 152 samples, 110 genuine, 5 doubtful, 37 adulterated (23 per cent). From 1877 to 1905, 1,348 samples were examined, of which 673 (50 per cent) were adulterated.—*Bull. Lab. Int. Rev. Dept. Canada*, No. 165, 1908, p. 33.

Ceccherelli, Amedeo, reports on the adulteration of black pepper.—*Boll. chim. farm.*, Milan, 1908, v. 47, pp. 185–188.

Petkoff, N., reports 50 samples of ground black pepper, which contained from 4.8 to 9.3 per cent of ash. Twenty-seven samples ground by himself were found to contain from 3.6 to 7.5 per cent of ash. Also reports a sample of black pepper adulterated by being coated with graphite.—*Ztschr. f. öffentl. Chem.*, 1908, v. 15, pp. 84, 133.

Philipp Röder (*Jahresbericht. Wien*, 1908, pp. 81–82) reports on 5 samples of black pepper, which were found to contain from 3.42 to 7 per cent of ash. The latter was rejected because of its high ash content.

PIX LIQUIDA.

Smith, Kline & French Co. (Analytical Report, 1908, p. 31) report that they examined 3 samples of tar which proved to be satisfactory.

Cook, E. Fullerton, asserts that the process for the U. S. P. VIII sirup of tar is an improvement over the sirup of the 1890 Pharmacopœia. The preparation can be made much more quickly and has a stronger tar flavor.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 961.

Searby, W. M., believes that an important precaution in making tar ointment is to get a good tar. Tar perfectly uniform and semi-fluid should be used, and care should be taken to avoid too much heat. He has never found it necessary to strain this ointment or to do anything with it afterwards, and he had kept it for a year and over.—*Ibid.*, 1908, v. 56, p. 975.

Good, James M., has found it necessary to remelt and strain tar ointment two or three times in order to obtain a product which would remain permanently smooth.—*Ibid.*, 1908, v. 56, p. 974.

Sutton, R. L., calls attention to the value and efficiency of coal tar in the treatment of certain types of eczema.—*J. Am. M. Ass.*, 1908, v. 51, p. 497.

PLUMBI ACETAS.

Koch, H., discusses the titrimetric estimation of lead in soluble salts of lead as lead sulphide.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 124-125.

Delphin, T., discusses the testing of lead acetate and the several reagents used for this purpose.—*Svensk. farm. Tidskr.*, 1908, v. 12, pp. 1-3.

Kebler, L. F., reports on a sample of lead acetate which contained iron and alkaline earths.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 776.

Smith, Kline & French Co. (Analytical Report, 1908, p. 31) report examining 2 samples of acetate of lead: 1 was of U. S. P. quality, the other contained an excess of residue.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 77.

Blome, Walter H., reports on 1 sample of lead acetate having impurities, Fe, Zn, Mg, and Ca.—*Proc. Michigan Pharm. Ass.*, 1908, p. 93.

Philipp Röder (Jahresbericht, Wien, 1908, p. 110) reports that of 4 samples of lead acetate examined one was rejected because of its being but partially soluble in water.

Preti, L., contributes a note on hæmolysis by lead, colloidal lead, and lead salts.—*Comp. rend. Soc. de biol., Par.*, 1908, v. 65, p. 52.

The same author concludes that (1) hepatic autolysis is favored by small quantities of lead acetate or nitrate; (2) the favoring action is augmented with the quantity of the salt added: up to a certain limit, larger quantities produce the opposite effect, they inhibit autolysis.—*Ibid.*, 1908, v. 65, p. 225.

PLUMBI OXIDUM.

Kebler, L. F., reports on 3 samples of lead oxide: 1 contained a salt of aluminum, another material insoluble in acetic acid, and the third was contaminated with lead chloride.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Smith, Kline & French Co. (Analytical Report, 1908, p. 31) report examining 2 samples of lead oxide: 1 was of U. S. P. quality, the other contained a large excess of carbonates.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 77.

Philipp Röder (Jahresbericht, Wien, 1908, p. 112) reports that of 5 samples of lead oxide examined only 1 was entirely free from iron; the remaining 4 containing varying amounts of this metal.

Harrison, E. F., reports analyses of a number of samples of litharge and lead oleate.—Pharm. J., Lond., 1908, v. 81, p. 349. (See also Year-Book of Pharmacy, London, 1908, pp. 527-530.)

PODOPHYLLUM.

Vanderkleed, Charles E., reports on 9 assays of mandrake root; 3.140 per cent lowest; 4.380 per cent highest; 3.764 per cent average; 2 above and 7 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Carr and Reynolds found *Podophyllum peltatum* to vary from 3.80 per cent to 6.65 per cent resin.—Pharm. J., Lond., 1908, v. 80, p. 543.

Blome, Walter H., reports on 1 sample podophyllum containing a large amount of root, whereas it should be rhizome only.—Proc. Michigan Pharm. Ass., 1908, p. 94.

Dunlap, Renick W., reports on 2 samples of fluid extract of podophyllum which were found to be adulterated.—Rep. Dairy & Food Com. Ohio, 1909, p. 52.

Bloyer, William E., asserts that anybody familiar with the action of podophyllum as a cathartic knows that it has not a virtue in that line to recommend it. It is so harsh when it does so act, so gripping, so unpleasant, so slow, and so unsatisfactory in every way that we would not give it as a physic or cathartic to our worst enemy.—Eclectic M. J., Cincin., 1908, v. 68, p. 130. (See also under Resina Podophylli.)

POTASSI ACETAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 31) report that the 1 sample of potassium acetate examined by them was of U. S. P. quality.

Bachman, Gustav, reports that the samples of potassium acetate examined ranged from 91.58 to 97.93 per cent pure.—Proc. Minnesota Pharm. Ass., 1903, p. 50.

POTASSII BICARBONAS.

Hill, Charles Alexander, suggests, as a standard for potassium bicarbonate, lead 5 parts per million, arsenic 1 part per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Smith, Kline & French Co. (Analytical Report, 1908, p. 31) report that all of the 5 samples of potassium bicarbonate examined by them were of U. S. P. quality except 1, which contained an excess of fixed alkalies.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 77.

Bachman, Gustav, reports that the samples of potassium bicarbonate examined ranged from 96 to 98.91 per cent pure.—*Proc. Minnesota Pharm. Ass.*, 1908, p. 50.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 29) point out that potassium bicarbonate is usually very pure and nearly free from serious impurity. Arsenic to the extent of 4 parts per million was found in only 1 sample examined by them.

Harnsberger, Stephen, states that potassium bicarbonate prevents the complications of influenza; that he has never seen a case of pneumonia follow influenza since he began this treatment in 1889.—*J. Am. M. Ass.*, 1908, v. 51, p. 1724.

POTASSII BITARTRAS.

Tatlock and Thomson report that their experience with upward of 100 samples of cream of tartar leads them to believe that a limit of 0.002 per cent of lead in cream of tartar is rather a stringent one.—*Analyst*, London, 1908, v. 33, p. 174.

Hill, Charles Alexander, suggests, as a standard for acid potassium tartrate, lead 5 parts per million, arsenic 2 parts per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 99 samples of potassium bitartrate, 3 of which were below standard.

Fitz-Randolph, R. B., reports that all of the 103 samples of this article examined complied with the pharmacopœial requirements. The adulteration of this substance, at least of that quality which is sold by druggists, seems to have been discontinued.—*Rep. New Jersey Bd. Health*, 1908, p. 226.

Bachman, Gustav, reports that the samples of potassium bitartrate examined ranged from 93.81 to 97.53 per cent pure.—*Proc. Minnesota Pharm. Ass.*, 1908, p. 51.

Barnard, H. E., reports that of the 35 samples of cream of tartar examined 6 proved to be below standard, a percentage of adulteration of 17.1.—*Rep. Indiana Bd. Health*, 1908, p. 199.

Evans Sons Lescher & Webb (Analytical Notes, 1908, pp. 14–15) report finding a great variation in the purity of different samples of

cream of tartar. Only 2 samples contained as much as 5 parts of arsenic per million. Lead was frequently detected, but in minute quantities; the majority of the samples contained less than 10 parts per million, the highest amount was 30 parts; 2.5 per cent of calcium sulphate was noticed in several samples.

Mazzini, V., (*Gazz. deg. Osp.*, Milan, v. 29, No. 5) states that ordinary cream of tartar has been used for some years in Italy for the dressing of wounds. It is strongly antibacterial and nontoxic. The bitartrate is supposed to liberate nascent oxygen when in contact with the tissues.—*J. Am. M. Ass.*, 1908, v. 50, p. 554.

POTASSII BROMIDUM.

Kebler, L. F., reports on potassium bromide which contained traces of iron and sodium salt.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 776.

Smith, Kline & French Co. (*Analytical Report*, 1908, p. 31) report that 2 of the 6 samples of potassium bromide which they examined were not of U. S. P. quality.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 78.

Heusler, P. I., reports on 3 samples of potassium bromide examined; 2 corresponded exactly with the requirements of the U. S. P., while 1 sample contained about 2 per cent chloride in excess of the limit allowed.—*Proc. Maryland Pharm. Ass.*, 1908, p. 33.

McCallum, A. J., (*Brit. M. J.*, Mch. 14) advocates the use of bromides in cases of epilepsy when the cause can not be removed. The bromides are curative in peripheral, traumatic, emotional, and toxic cases.—*J. Am. M. Ass.*, 1908, v. 50, p. 1226.

v. Wyss, H., reports observations on the retention of bromine compounds in the human and animal organism. He concludes that the organism is quite passive to bromine salts and that the increased retention of bromine compounds in the blood entails an increased elimination of chlorine ions.—*Arch. f. exper. Path. u. Pharmacol.*, Leipzig, 1908, v. 59, pp. 186–195.

An abstract asserts that kali bromidum is indicated in difficult dentition of children, especially when the mouth is hot and dry. It acts by restoring the salivary secretion, and consequently the agitation, vomiting, carpopedal involuntary motion, and diarrhoea disappear.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 793.

POTASSII CARBONAS.

Hill, Charles Alexander, suggests, as a standard for potassium carbonate, lead 5 parts per million, arsenic 2 parts per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Smith, Kline & French Co. (*Analytical Report*, 1908, p. 31) report that 14 of the 79 samples of potassium carbonate which they

examined were not of satisfactory quality.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

Bachman, Gustav, reports that the samples of potassium carbonate examined ranged from 82.65 to 97.61 per cent pure.—Proc. Minnesota Pharm. Ass., 1908, p. 50.

Kebler, L. F., reports on samples of potassium carbonate which contained chlorides.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 29) report that the commercial qualities of potassium carbonate examined by them contained heavy traces of chloride, were strongly contaminated with arsenic, and therefore unfit for pharmaceutical purposes.

POTASSII CHLORAS.

Hill, Charles Alexander, suggests as a standard for potassium chlorate, lead 10 parts per million, arsenic 2 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

Carlson and Gelhaar discuss the occurrence of chlorites and hypochlorites and their quantitative determination as contaminations of chlorates.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 604–605.

Gartenmeister, R., reviews the above article and asserts that by far the greater amount of the chlorate now available is made electrolytically and is comparatively impure. He outlines a test to which acceptably pure chlorate should comply.—*Ibid.*, 1908, v. 32, p. 677.

Ponndorf, G., discusses the test outlined by Gartenmeister and points out that samples of chlorate which do not comply with the test outlined are not necessarily more dangerous than samples which do.—*Ibid.*, 1908, v. 32, p. 1151.

Klobbie and Visser call attention to the possible contamination of potassium chlorate by potassium perchlorate and outline a method for detecting the same.—Pharm. Weekblad, 1908, v. 45, pp. 718–720.

Knecht, Edmund, outlines a volumetric process for the estimation of chlorates which depends on the mixing of a known volume of the chlorate solution with a solution of a known weight of ferrous sulphate in dilute sulphuric acid, contained in a flask provided with a Contat-Göckel valve (trap), boiling ten minutes, cooling, and then titrating the excess of ferrous sulphate with permanganate. Lunge states that it gives results which are exact to within 0.2 to 0.4 per cent.—J. Soc. Chem. Ind., Lond., 1908, v. 27, pp. 434–435.

Blome, Walter H., reports on 1 sample of potassium chlorate which had a slight excess of nitrite.—Proc. Michigan Pharm. Ass., 1908, p. 94.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 30) state that 2 of the 10 samples of potassium chlorate examined by them contained 5 and 6 parts of arsenic, the remainder containing 4 parts and

below. Two samples contained 15 parts of lead per million and one 10 parts, but it was either absent or nearly so in the rest.

An unsigned article discusses the possible danger arising from storing potassium chlorate in connection with combustible material and reviews the evidence that has been presented in connection with two recent explosions.—*Drug Topics*, New York, 1908, v. 23, p. 296.

Sharp & Dohme, in a communication to pharmaceutical journals, call attention to some of the facts regarding a recent explosion of potassium chlorate during its compression into tablets by an experienced attendant. The salt was of the kind usually known as "santonin crystals." It was examined for purity before compressing, and the quantity remaining was again tested and found to be faultless and quite clean.—*Proc. Am. Pharm. Ass.*, 1909, v. 57, p. 238.

The editor, in commenting on a communication from Sharp & Dohme describing an explosion which took place in their establishment, calls attention to the recommendations made by the chief inspector of explosives in England, who suggests: (1) The elimination, so far as may be possible, of combustible material in the packages containing chlorate. (2) The establishment of separate buildings, of fireproof construction, for the storage of chlorate. (3) Absolute cleanliness, i. e., the outside of the kegs and the floor and walls of the storeroom should be kept clear of all dust and dirt.—*Am. Druggist*, N. Y., 1908, v. 53, p. 175.

Santesson, C. G. (*Arch. Exp. Pathol. Pharmacol. Suppl.*, 1908, 460-468), asserts that in some cases of chlorate poisoning there is a form of erythrocyte destruction and elimination of hemoglobin through the kidney, which is not essentially different from the well-known forms of hemolysis. The severity of the poisoning is conditioned by these factors.—*Chem. Abstr. Am. Chem. Soc.*, 1909, v. 3, p. 209.

An abstract calls attention to a report by Hans Hirschfeld (*Allgemeine Medicinische Central-Zeitung*, of July 6, 1907) on a case of poisoning by potassium chlorate, the changes produced in the blood being described in detail.—*Therap. Gaz.*, Detroit, 1908, v. 32, pp. 269-270.

Longfield, F. J., in discussing the treatment of septicæmia, points out that potassium chlorate is indicated by tongue moist and yellow, cadaveric odor.—*Tr. Nat. Eelect. M. Ass.*, 1908, v. 36, p. 292.

POTASSII CITRAS.

Hill, Charles Alexander, suggests as a standard for potassium citrate lead 5 parts per million, arsenic 1 part per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Patch, E. L., found two lots of potassium citrate containing heavy metals.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 773.

Blome, Walter H., reports on 2 samples of potassium citrate; 1 satisfactory; the other was low in solubility.—*Proc. Michigan Pharm. Ass.*, 1908, p. 94.

POTASSII CYANIDUM.

Barnard, H. E., reports on 12 samples of potassium cyanide, 7 of which were below the pharmacopœial requirements. He thinks that this is undoubtedly due to a practice of the trade in handling cyanide of different strengths.—*Rep. Indiana Bd. Health*, 1908, p. 326.

Welker and Ditman report on some biochemical and anatomical changes induced in dogs by potassium cyanide.—*N. York M. J.*, 1908, v. 88, pp. 59-67.

POTASSII DICHROMAS.

Miers, H. A. (*Mineral Mag.*, 15, 39-41; plate), having observed the evaporation of a strong solution of potassium bichromate under the microscope, points out that the crystals grow rapidly for a time as branching fibers and then quietly in the form of plates or flattened rods.—*Chem. Abstr.*, *Am. Chem. Soc.*, 1908, v. 2, No. 14, p. 1919.

Burnett, John Albert, points out that the main action of potassium dichromate is upon the mucous membranes, but it has some influence upon the nervous system, and has been used for locomotor ataxia. It is an important remedy for croup, and, as a rule, soon relieves the hoarse, croupy condition that some children often have.—*Eclectic Rev.*, 1908, v. 11, pp. 141-142.

Foltz, K. O., asserts that potassium bichromate is indicated in conjunctivitis when the secretion is sticky, tough, and tenacious. Not often required, but a valuable drug with this condition.—*Eclectic M. J.*, *Cincin.*, 1908, v. 68, p. 34.

POTASSII ET SODII TARTRAS.

Barnard, H. E., reports on 3 samples of Rochelle salt examined, 94.7, 95.8, and 95.0 per cent pure.—*Rep. Indiana Bd. Health*, 1908, p. 341.

Coblentz, Virgil, reports 2 samples of Rochelle salt below U. S. P. standard.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 761.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 37) report the following results of their examination of 30 samples of sodium potassium tartrate: arsenic, less than 3 parts per million; lead, only 3 samples contained 20 parts per million; the majority contained less than 5; iron, objectionable only in 3 samples; calcium, traces occasionally.

POTASSII HYDROXIDUM.

von Lippmann, Edmund O., presents a contribution to the history of potassium and the origin of the name, which he does not believe to be derived from Pott (1692-1777), one of the better-known chemists of his time.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 977-978.

Witt, Otto, discusses the paper by v. Lippmann and suggests that the name potash was first applied to the ashes that accumulated under and around the pot on the hearth.—*Ibid.*, 1908, v. 32, p. 1029.

König, Berthold, presents a contribution to the discussion on the origin of the name potash. He calls attention to the widespread use of the root word "pot" and the probability that the name potash is derived from the fact that lye was dried in a pot over the fire.—*Ibid.*, 1908, v. 32, p. 1140.

Stengel, Fritz, in discussing the Ph. Austr. VIII tests for chloroform, points out that potassium hydrate containing upwards of 90 per cent of KOH is not readily obtained, and asserts that an article containing upwards of 85 per cent KOH is likely to be gray or otherwise off color.—*Ztschr. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, p. 280.

Frey, Otto, believes that a minimum content of 80 per cent of KOH would be more in keeping with commercial conditions.—*Ibid.*, 1908, v. 46, p. 664.

Smith, Kline & French Co. (Analytical Report, 1908, p. 32) report examining 7 samples of potassium hydroxide; all but 2 fulfilled the U. S. P. requirements, heavy metals and iron being present in these.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 78.

Bachman, Gustav, reports that the samples of potassium hydroxide examined ranged from 83.36 to 88.06 per cent pure.—*Proc. Minnesota Pharm. Ass.*, 1908, p. 50.

Scoville, W. L., reports potassa ranging from 81.6 to 88.9 per cent KOH. One sample was a mixture of KOH and NaOH.—*Proc. Am. Pharm. Ass.*, 1908; v. 56, p. 773.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 30) report that various samples of potassium hydrate contained the usual impurities. Lead was not found in greater quantities than 10 parts per million, nor were there more than 4 parts of arsenic per million.

Halla, A., outlines a method employed by him for making alcoholic solutions of potassium hydroxide. He particularly cautions against filtering the solution through paper and recommends that it be exposed to diffuse daylight so as to avoid discoloration.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 890.

POTASSII HYPOPHOSPHIS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 32) report that 3 of the 5 samples of potassium hypophosphite examined by

them were not of U. S. P. quality.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

An abstract quotes Kopp as recommending Kali Hypophos in 1-grain doses in tea poisoning. The indications are constipation, painful flatulence, bilious vomiting, shooting pains about the chest and scapulae, aversion to food, great despondency, a feeling of tenderness in the hypochondrium, want of appetite with a great aversion to food, and palpitation of the heart.—Hahnemann. Month., Phila., 1908, v. 43, p. 791.

POTASSII IODIDUM.

Hills, Walter, in addition to the tests already noted, suggests a further test for lead.—Rep. Com. Ref. Genl. Med. Council (to October 29, 1908), Lond., 1908, p. 28.

Baxter and Brink report experiments to determine the specific gravity of potassium iodide and point out that the density of this salt at 25° C. referred to water at 4° was found to be 3.115.—J. Am. Chem. Soc., 1908, v. 30, pp. 46–53.

Getman, Frederick H., reports observations on the viscosity of nonaqueous solutions of potassium iodide.—*Ibid.*, 1908, v. 30, pp. 1077–1084.

Kebler, L. F., reports on potassium iodide which contained iodate.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Smith, Kline & French Co. (Analytical Report, 1908, p. 32) report that nearly all of the 95 samples of potassium iodide examined by them contained a slight excess of alkali.

Kahn, Joseph, points out that potassium iodide does not always conform to the U. S. P. test; it frequently contains an excess of alkali.—Proc. New York Pharm. Ass., 1908, p. 225.

Patch, E. L., reports on 30 samples of potassium iodide; 1 contained iron, 1 iron and dirt, 2 excess of moisture and free iodine.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 773.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 97–98) reports examining 16 samples of potassium iodide, 1 of which was rejected because of the presence of iodic acid.

The therapeutic committee of the British Medical Association suggests that unguentum potassii iodidi be deleted from the Ph. Brit., as it is unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Diekman, Geo. C., believes that the present formula for ointment of potassium iodide does not give as satisfactory or as stable a preparation as the formula in the 1890 edition.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 84.

Kiliani presents a note calling attention to the behavior of thio-sulphate with permanganate in alkaline solution, and the fact that, in the volumetric estimation of alkali iodides, the amount of thiosul-

phate is but one-eighth of the amount indicated by the equation usually published.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1018.

Neilson and Terry find that potassium iodide increases the amylolytic power of the saliva.—*Am. J. Physiol.*, 1908, v. 22, pp. 43-47.

Feigl, Johann, reports on experimental studies to determine the influence of potassium iodide and other iodides on gastric secretion.—*Biochem. Ztschr.*, Berl., 1907-8, v. 8, pp. 467-519.

McAuliffe, George B., reports a case of deafness from the use of potassium iodide, which he says should serve as a warning against the reckless use of this drug. Aural symptoms from ergot and from sodium salicylate are also discussed.—*J. Am. M. Ass.*, 1908, v. 50, p. 1418.

Sgalitzer, U. C. Max, presents a report on experiments to determine the nature of the influence of iodides on metabolism.—*Arch. internat. de pharmacod. et de therap.*, 1908, v. 18, pp. 285-309.

Massol and Minet report observations on the absorption of potassium iodide from the rectum and its appearance in the urine.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 447-449.

Gurewitsch, R. (Inaug.-Diss., Basel, 1907, 24 p.), discusses the influence of potassium iodide on the pulse rate.—*Biochem. Centralbl.*, Leipz., 1908, v. 7, p. 230.

Foltz, K. O., asserts that potassium iodide is of most value in specific diseases, as syphilitic iritis or neuritis, although in interstitial keratitis, and occasionally in conjunctivitis complicated with the syphilitic taint, the drug will be required.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 34.

Additional references on the action and uses of iodides will be found in the *J. Am. M. Ass.* and in the *Index Medicus*.

POTASSII NITRAS.

Hills, Walter, in addition to the tests already noted suggests a further test for lead.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 28.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 30) report that out of 20 samples of potassium nitrate examined by them only 1 showed 4 parts of arsenic per million. No objectionable quantity of metallic impurity was noticed, the lead not exceeding 10 parts per million in any sample examined. Up to 0.37 per cent chloride (as KCl) was found in 4 samples.

Philipp Röder (Jahresbericht, Wien, 1908, p. 98) reports that 3 samples of potassium nitrate, sold as chemically pure, were all found to contain appreciable quantities of chloride.

Wiley, H. W., points out that while the available data in regard to the possible deleterious effects of potassium nitrate are not conclusive,

they are of a character to suggest the desirability of omitting the substance from articles to be used as food.—Proc. Am. Philosoph. Soc., 1908, v. 47, p. 324.

POTASSII PERMANGANAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 32) report that of the 6 samples of potassium permanganate examined by them all were of U. S. P. quality except 2; 1 of these was low in strength and contained nitrites; the other contained chlorides.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

Dohme and Engelhardt report on a shipment of potassium permanganate containing a considerable quantity of sulphate.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 817.

Harrison and Perkin report experiments on the titration of permanganate and conclude that, for exact titrations, potassium permanganate can not be employed in presence of hydrochloric acid.—Analyst, London, 1908, v. 33, pp. 43–47.

Bousfield, E. C., compared the action of potassium permanganate with that of several proprietary disinfectants, and states that potassium permanganate is at once the strongest and the cheapest of the disinfectants examined.—Lancet, 1908, v. 175, p. 1078. (See also editorial in Chem. & Drug., Lond., 1908, v. 73, p. 620.)

Wood, J. Stewart, discusses the use of potassium permanganate as a dry dressing in veterinary practice.—Vet. J., Lond., 1908, v. 64, pp. 134–135.

POTASSII SULPHAS.

Hills, Walter, in addition to the Ph. Brit. tests, suggests a further test for lead.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 28.

Philipp Röder (Jahresbericht, Wien, 1908, p. 100) reports finding a sample of potassium sulphate containing appreciable quantities of sodium and heavy metals.

Fonzes-Diacon, D., outlines tests for determining the purity of potassium sulphate and discusses the uses for this chemical as a fertilizer.—Bull. pharm. du Sud-est, Montpel., 1908, v. 13, pp. 393–395.

PRUNUM.

The therapeutic committee of the British Medical Association suggests that prunes be deleted from the Ph. Brit. It is an article of commerce which requires no official description.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

PRUNUS VIRGINIANA.

Farwell, A. O., asserts that wild cherry bark is offered in many instances with the outer, black, corky layer still attached; it is gath-

ered from any part of the tree, giving rise, apparently, to grades of bark widely dissimilar in appearance. During the past season cherry bark has been collected in considerable quantities from west of the Rockies. This bark is from *Prunus demissa* (Nutt) Walpers, and differs from the official kind in being darker and in having much more prominent lenticils. An extract made from it for experimental purposes gave the characteristic odor, color, and taste of the official wild cherry bark.—Merck's Rep., N. Y., 1908, v. 17, p. 35.

Sayre, L. E., points out that the menstruum for fluid extract of wild cherry was changed from 80 per cent alcohol and 10 per cent glycerin, U. S. P., 1890. to 19 per cent alcohol and glycerin, U. S. P. VIII.—*Ibid.*, 1908, v. 17, p. 4.

In a discussion on sirup of wild cherry, by the Chicago Branch of the A. Ph. A., it was pointed out that the present formula was inferior to that formerly used. It was also noted that the sirup had a better color when made during the summer and that a finer product was obtained when made in larger quantities.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 88.

Cook, E. Fullerton, believes that the U. S. P. VIII sirup of wild cherry is to be preferred to that of the earlier editions. The keeping quality and the appearance of the finished sirup is satisfactory. He suggests a slight modification of the present method.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 961.

Searby, W. M., thinks that sirup of wild cherry should not be exposed to light, as this tends to decompose the active ingredients.—*Ibid.*, 1908, v. 56, p. 967.

Sayre, L. E., reports that 2 samples of sirup of wild cherry examined were in a state of fermentation, and only minute traces of the active properties of wild cherry could be detected in 1, none in the other.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 153-248.

Beringer, George M., outlines a formula for fluid glycerate of wild cherry.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1006.

PULVIS ACETANILIDI COMPOSITUS.

Fussell, M. Howard, can see no good reason for recognizing compound acetanilide powder as an official U. S. P. preparation.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 18.

Hatcher, Robert A., deplors the introduction of compound acetanilide powder in the Pharmacopœia and asserts that neither it nor the original preparation which it is intended to imitate are deserving of recognition as representing a distinctive advance in therapeutics.—Pharm. Era., N. Y., 1908, v. 39, p. 173.

Mittelbach, Wm., asserts that the idea of making such a simple mixture as compound acetanilide powder official is wrong.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1041.

PULVIS CRETÆ COMPOSITUS.

Baird, J. W., says that it is desirable to make compound chalk powder extemporaneously, in order to prevent its souring.—Proc. Massachusetts Pharm. Ass., 1908, p. 76.

Hommell, P. E., suggests that the cane sugar in the formula for compound chalk powder of the U. S. P. should be removed and a proper proportion of aromatic powder substituted, as cane or milk sugar is apt to cause fermentation in the stomach of the little ones, to whom it is given for the relief of sour eructations and fermentative diarrhoea in the summer time.—Proc. New Jersey Pharm. Ass., 1908, p. 103.

PULVIS EFFERVESCENS COMPOSITUS.

McKesson, Donald, asserts that Seidlitz mixture is occasionally found with an excess of sodium bicarbonate.—Proc. N. W. D. A., 1908, p. 107.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 2 samples of compound effervescing powder, both of which were up to standard.

Gane and Webster report on three different lots of Seidlitz mixture which contained, respectively, 26.36, 27.1, and 28.6 per cent of sodium bicarbonate instead of 25 per cent required by the U. S. P.—Drug Topics, New York, 1908, v. 23, p. 212.

PULVIS GLYCYRRHIZÆ COMPOSITUS.

Kroeber, Ludwig, reports a comparative examination of 3 samples of compound powder of glycyrrhiza and points out the desirability of making this preparation in the laboratory of the pharmacy, so as to insure its identity and usefulness.—Apoth. Ztg., Berl., 1908, v. 23, p. 690.

Barnard, H. E., reports on 11 samples of compound licorice powder examined; 9 were found to be legal, while the other 2 samples were evidently plain licorice powder.—Rep. Indiana Bd. Health, 1908, p. 319.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xlv) assert that in preparing the compound powder of glycyrrhiza they regrind the mixed drugs so as to insure intimate blending.

Squire, Balmanno, states that the composition of the compound licorice powder of the Ph. Brit. is such as to preclude the use of that most valuable, easy, and harmless laxative by persons affected with diabetes, obesity, gout, and some other conditions, altogether a numerous class, inasmuch as two-thirds of it is made of sweet stuffs, chiefly sugar. He presents a modified formula to overcome these objections.—Pharm. J., Lond., 1908, v. 80, p. 411. (See also editorials *Ibid.*, pp. 592 and 661.)

PULVIS IPECACUANHÆ ET OPII.

Thomann, J., reports a case in which powdered ipecac was dispensed in place of the official powder of ipecac and opium, and thinks it would be safer to revert to the use of the original title "Pulv.-Doveri" for this preparation, to obviate possible mistakes.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 247.

PYROGALLOL.

Philipp Röder (Jahresbericht, Wien, 1908, p. 17) points out that pyrogallol should be white in color, should melt at from 130–132°, and should show but a faint acid reaction.

QUASSIA.

Wiegel, G., asserts that practically all of the available quassia is that commercially known as Jamaica quassia. He describes the characteristic features of both varieties of the drug.—Pharm. Zentralh., 1908, v. 49, p. 975.

Alcock, F. H., has experimented with powdered quassia, and finds that the yield of dried extractive to cold water is very variable, with the result that the infusion has not been uniform, and the amount of extractive very small, 1 gram giving 0.010 to 0.030.—Pharm. J., Lond., 1908, v. 27, p. 354. (See also Year-Book of Pharmacy, Lond., 1908, p. 430.)

Sayre, L. E., reports that a sample of fluid extract of quassia examined had deteriorated.—Bull. Kansas Bd. Health, 1908, p. 296.

Barnard, H. E., reports on 1 sample of tincture of quassia examined having a specific gravity at 20° C. of 0.9505; alcoholic volume at 20° C., 36.4; and 0.542 gm. extract per 100 cc.—Rep. Indiana Bd. Health, 1908, p. 341.

Beringer, George M., outlines a formula for fluid glycerate of quassia with the procedure to be followed, and asserts that this product is an excellent preparation of the drug, that has deposited no appreciable sediment, and the marc shows that the drug was exhausted as far as possible. It mixes clear with water, sirup, or diluted alcohol, and opalescent with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1000.

QUERCUS.

Philipp Röder (Jahresbericht, Wien, 1908, p. 52) reports on 2 samples of oak bark containing 8.26 and 10.33 per cent of ash, respectively.

Beringer, George M., outlines a formula for fluid glycerate of white-oak bark and the procedure to be followed. He asserts that the product is rich in tannin, deep in color, and strong in taste of

the drug and has remained clear. It mixes clearly with water, sirup, or diluted alcohol and only slightly cloudy with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1006.

QUILLAJA.

Rusby, H. H., asserts that genuine soap bark is becoming scarce, and that several sorts, apparently different, are coming forward.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 790.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 52) points out that the Ph. Austr. VIII requires that soap bark contain not more than 10 per cent of ash; one sample, containing 18.99 per cent of ash, was rejected.

Beringer, George M., outlines a formula for fluid glycerate of quillaja, the procedure to be followed, and asserts that this is a good preparation, being clear and active. It mixes clear with water, sirup, or diluted alcohol, and cloudy with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1000.

Cook, Geo. W., in discussing the possible abuses that may arise from the use of tooth powders not adapted to the individual needs, asserts that soap bark can cause a degeneration of the mucous tissue.—Dental Digest, 1908, v. 14, p. 629.

QUININA.

Davy, Henry, president of the British Medical Association, in discussing the unnecessary duplication of titles in the British Pharmaceutical Codex, said: "For thirty years I have got on and done well by my patients using quinine sulphate only, or perhaps occasionally using the hydrochloride. But the Codex has no less than 23 combinations of quinine with various acids."—Pharm. J., Lond., 1908, v. 26, p. 289.

Vondrasek, Jos., reviews the color tests that have been proposed for quinine and reports experiments to determine the practicability of developing the thalleioquin reaction as a quantitative test for this alkaloid.—Pharm. Post, Wien, v. 41, pp. 605–607, 613–614, 621–623.

Heikel, Gunnar, reports a number of experiments to show the availability of Mayer's reagent for the quantitative determination of quinine.—Chem. Ztg., Cöthen, 1908, v. 32, p. 1163.

Rabe, Paul, and others, present additional reports on work on the chemistry of the cinchona alkaloids, their composition and their oxidation products.—Ann. d. Chem., Leipz., 1908, v. 364, pp. 330–352; v. 365, pp. 353–382.

Kempf, Richard, discusses the sublimation of quinine in a vacuum. He finds the melting point of the sublimed substance (171.5–172.5° C.) to be slightly lower than the melting point given in the literature for

the commercial article. 172.8° C.—J. f. prakt. Chem., Leipz., 1908, v. 78, p. 251.

Gane and Webster report their experience in the assay of quinine pills and tablets and point out that to convert grams of anhydrous quinine into grains of the various salts multiply by

- 22.77, for quinine sulphate ($7H_2O$),
- 21.2, for quinine sulphate ($8H_2O$),
- 26.1, for quinine bisulphate ($7H_2O$).

—Drug Topics, New York, 1908, v. 23, p. 244.

Rammstedt, Otto, reviews the several methods that have been used to determine quinine and its decomposition products in the urine and comments at some length on the work done by Grosser (Biochem. Ztschr., 1908, pp. 98–117) on the behavior of quinine in the organism.—Pharm. Ztg., Berl., 1908, v. 53, pp. 674–675.

Larouturou, J., concludes a study on the fluorescence of quinine.—Bull. soc. de pharm. de Bordeaux, 1908, v. 48, pp. 21–22, 35–47, 73–80.

Gordin, H. M., presents a review of a number of articles on the new compounds of quinine: chiefly formates.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 79–80.

Zimmer & Co. have introduced on the market a basic tannate of quinine containing 40–50 per cent of quinine and assign to it the formula $C_{20}H_{24}N_2O_2 \cdot 3C_{14}H_{10}O_9 + 10H_2O$. This preparation therefore contains a much higher percentage of quinine than the tannate of the Ph. Germ. IV, which demands only 30–32 per cent of quinine. It is a yellowish-white powder, and in all other respects resembles the official tannate, being nearly insoluble in water and free from sulphuric and hydrochloric acids.—Pharm. Ztg., 1908, v. 53, p. 252.

Biginelli, P., discusses the chemistry of quinine tannate.—Boll. chim. farm., Milan, 1908, v. 47, p. 527ff.

Muraro, F., reports observations on the solubility of true and of false quinine tannate.—*Ibid.*, v. 47, pp. 255–258.

Dohme and Engelhardt report that quinine and urea hydrochloride with the exact melting point generally given as 70 to 71° C. could very seldom be obtained; most of the samples melted at a somewhat higher temperature.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 817.

Solis-Cohen, Solomon, presents some observations on the hypodermic use of quinine and urea hydrochloride in the diagnosis and treatment of acute and chronic malarial infections, and on the resemblance of the sexual cycle of the malarial parasite, manifested by the periods of freedom from paroxysms that ordinarily follow a single injection of about 1 gram of this salt, which he illustrates with a number of charts, and expresses the hope that some competent investigator will look into the subject further.—Am. J. M. Sc., Phila., 1908, v. 136, pp. 344–360.

Giemsa, G. (Arch. f. Schiffs- u. Tropenhyg., 12. Beiheft 5, 82-87. August, 1904. Hamburg. D. tropenmed. Gesellschaft.), reports observations on the deterioration noted in solutions of quinine and urea hydrochloride, discusses the conditions under which this deterioration takes place, and recommends that, in place of urea, ethyl urethane be used to facilitate solution.—Chem. Zentralbl., Berl., 1908, v. 79, p. 1059.

Hare, H. A., calls attention to some experimental data in support of the prevalent belief that quinine is a remedy capable of aiding the body in combating infection, particularly that state generally called sepsis.—Therap. Gaz., Detroit, 1908, v. 32, p. 93.

Stitt, E. R., reports disappointing results in the prophylactic use of quinine on a large scale among troops infected with malaria.—J. Am. M. Ass., 1908, v. 50, pp. 1682-1683.

Moulinier, R., reports experiments to determine the influence of salts of quinine on cardiac contraction.—J. de physiol. et de pathol., 1908, v. 10, pp. 617-623.

Grosser, Paul, presents the results of an exhaustive study on the absorption, destruction, and elimination of quinine by the animal organism.—Biochem. Ztschr., Berl., 1907-8, v. 8, pp. 98-117.

Jones, D. W., discusses the use of quinine in the treatment of pneumonia. He asserts that his experience with quinine in pneumonia inclines him to commend it to those who have not tried it.—Merck's Arch., N. Y., 1908, v. 10, pp. 71-72.

The editor of the "Miscellany" column quotes R. L. Payne, Charlotte Medical Monthly for March, who reports his experience with quinine in the treatment of pneumonia in which he gives large doses.—J. Am. M. Ass., 1908, v. 50, p. 1286.

Alvarez, Walter C., expresses surprise at seeing the above abstract in which the use of large doses of quinine is advocated in the treatment of pneumonia. Alvarez shows that the original recommendation of Galbraith, which Payne followed, was wholly misleading.—*Ibid.*, v. 50, p. 1996.

Wells, G. Harlan, asserts that quinine in doses of 2 grains three times a day is sometimes valuable in improving the appetite and toning up the system.—Hahnemann. Month., Phila. 1908, v. 43, p. 601.

An editorial asserts that those in a position to know claim that the demand for quinine is gradually growing less. The editorial further points out that, since quinine is used almost exclusively in malarial troubles, the demand for that medicine will gradually decrease and perhaps reach that point where the price will advance on account of the small consumption and consequently small scale on which it will be manufactured.—Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 301.

Parsons, Allan C., reports a case of quinine poisoning resulting from a dose of $2\frac{1}{2}$ grains of quinine bisulphate, in an adult.—*Lancet*, 1908, v. 175, p. 1443.

Salomon, Oskar (*Münch. Med. Woch.*, Bd. 55, No. 34, Aug., 1908), reports an interesting case of quinine intoxication due to idiosyncrasy on the part of the patient.—*Biochem. Centralbl.*, Leipz., 1908, v. 7, p. 884.

Additional references to quinine poisoning and to the use of quinine are given in *Index Medicus* and *J. Am. M. Ass.*

QUININÆ BISULPHAS.

Biginelli, P. (*Monit. Scient.*, 1908, 22, 185–187), discusses the direct application of the Kerner and Liebig-Hesse tests to quinine bisulphate. The method of procedure is given in the abstract.—*J. Soc. Chem. Ind.*, Lond., v. 27, p. 294.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 45) reports that of 4 samples of quinine bisulphate examined one was rejected because of the presence of foreign bases.

QUININÆ HYDROBROMIDUM.

Smith, Kline & French Co. (*Analytical Report*, 1908, p. 32) report that the 1 sample of quinine hydrobromide examined by them was of satisfactory quality.

QUININÆ HYDROCHLORIDUM.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 31) report that of 8 samples of quinine hydrochloride examined by them, 6 were sufficiently free from other cinchona alkaloids to answer Kerner's test as given in the U. S. P. About 9 mls of ammonia solution were required to produce a clear solution in the case of the other two.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 46) reports that of 2 samples of quinine hydrochloride examined 1 contained foreign alkaloids and sulphuric acid.

Senta, S., discusses the antipyretic action of quinine hydrochloride and its action on the absorption of O_2 by the muscles of the pigeon.—*Arch. internat. de pharmacod. et de therap.*, 1908, v. 18, pp. 219–234.

An abstract (*Rev. de Sanidad Militar*) calls attention to a communication by Leuzmann on the treatment of syphilis by the use of quinine hydrochloride hypodermatically.—*Rev. Med. Cir. Habana*, 1908, v. 13, p. 288.

Giemsa, G. (*Arch. f. Schiff- u. Tropenhyg.*, 1908, Beih. 5, p. 82), reports that solutions of quinine and urea hydrochloride proved to

be unstable and recommends the following formula, as giving a solution that can be sterilized without fear of decomposition:

Quinine hydrochloride.....	10.0
Distilled water.....	18.0
Urethane.....	5.0

—Apoth. Ztg., Berl., 1908, v. 23, p. 726.

Brown, Edward J., reports the use of quinine hydrochloride infiltration for anæsthesia in a number of cases.—J. Am. M. Ass., 1908, v. 51, p. 496.

Griswold, V. M., claims priority for the recommendation of quinine as an anæsthetic, having recommended it for the purpose in 1896.—*Ibid.*, v. 51, p. 690.

QUININÆ SULPHAS.

Seidell, A., points out that the direction for the ammonia test at foot of page 374 (U. S. P. VIII) might mislead a person not familiar with this test, since at first sight there is some uncertainty as to whether the 2 gms. of sample refer to dried material or whether the weighed 2 gms. are to be dried at 50° and then dissolved in water—Proc. Am. Pharm. Ass., 1908, v. 56, p. 528.

Biginelli, P., (Monit. Scient., 1908, 22, 175-185) discusses the causes of error in the Kerner-Weller method for the detection of allied alkaloids in quinine sulphate and points out that, in order to insure uniformity, it would be better to employ a definite weight of the effloresced salt. Instead of the temperature 50-60° C., generally prescribed for obtaining the saturated aqueous solution in Kerner's test, that of 70-80° C. is preferable, for some double salts are not completely dissociated at 50-60° C. In performing the test more satisfactory results are obtained when operating with 3 or 4 gms. of quinine sulphate and 30 or 40 cc. of water than with smaller quantities.—J. Soc. Chem. Ind., Lond., 1908, v. 27, p. 294.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 31) report that 8 of the 22 samples of quinine sulphate examined by them failed to answer Kerner's test. The precipitate of 7 of these resisted the action of over 20 mls of ammonia solution.

Eliot, Gustavus, asserts that nothing in the whole range of therapeutics is more wonderful than the activity of adequate doses of quinine sulphate in completely stopping the manifestations of malarial infection and preventing their recurrence.—Boston M. & S. J., 1908, v. 158, p. 252.

Longfield, F. J., in discussing the treatment of septicæmia, points out that quinine sulphate is indicated by periodicity, pulse soft, skin moist and soft, tongue clean and moist.—Tr. Nat. Eclect. M. Ass., 1908, v. 36, p. 292.

RENNIN.

Burr and Berberich discuss the examination of commercial rennin preparations, the determination of certain constituents, and their milk-coagulating property.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 313–314.

Narisé, S. (*Rev. Mens. Cám. Merc.*, 8, 1908, No. 93, pp. 299–303). The preparation of rennet. Methods of procuring rennet from plants and animals and its preparation for use in powdered or liquid form are discussed.—*Exp. Sta. Rec.*, 1908–9, v. 20, p. 785.

Höft, H., (*Milchwirtsch. Zentr.*, 4, 489–93, Nov.) reports on experiments relating to the action of rennet; he gives the results of some experiments which deal with certain conditions of rennet coagulation of milk.—*Chem. Abstr. Am. Chem. Soc.*, 1909, v. 3, p. 460.

Moseley and Chapman (*Proc. Linnean Soc. of New South Wales*, 1906, Bd. 31, p. 568) present a contribution to our knowledge of the action of rennin and point out that when alkalies are added to milk in sufficient quantity to produce a neutral reaction the coagulation by rennin is retarded.—*Biochem. Centralbl.*, Leipz., 1908, v. 7, p. 28.

Gerber, C., (*Compt. rend.*, 147, 1320–2) presents some observations on the functioning of rennet at different temperatures.—*Chem. Abstr. Am. Chem. Soc.*, 1909, v. 3, p. 902.

RESINA.

An unsigned article describes rosin, its origin, physical characteristics, and the products derived from it.—*Sc. Am. Suppl.*, 1908, v. 65, p. 114.

A news note points out that naval stores operators in New York and Savannah have decided to drop A and C rosin because of the confusion arising over the similarity in price for the A, B, and C grades.—*Oil, Paint, and Drug Reporter*, New York, 1908, v. 74, September 21, p. 10.

RESINA PODOPHYLLI.

Gane and Webster point out that resin of podophyllum does not always comply with the U. S. P. requirements as to solubility and residue on ignition. They report on 2 samples which contained 1.35 and 1 of ash, respectively, and while more soluble in water were less soluble in alcohol than the Pharmacopœia requires. The use of metallic precipitants to secure products of a certain color is almost sure to raise the ash content and reduce the solubility in alcohol.—*Drug Topics*, New York, 1908, v. 23, p. 212.

Bernegau, L. Henry, asserts that very few of the samples of resin of podophyllum came up to the U. S. P. requirements; most of them

contained about 10 or more per cent of alcohol insoluble matter.—*Am. J. Pharm., Phila.*, v. 80, p. 224.

Patch, E. L., reports on 7 samples of podophyllum which were from 99 to 100 per cent soluble in alcohol; from 53 to 85 per cent soluble in ether; from 65 to 70.6 per cent soluble in choloform; and left from 0.5 to 4 per cent of ash.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 733.

Gane, E. H., reports on 2 samples having a solubility in alcohol of 95 and 96 per cent; 80 and 68 per cent in ether; 66 and 63 per cent in chloroform, and were 20 per cent soluble in water.—*Ibid.*, v. 56, p. 773.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 29) report examining a sample of podophyllin labeled U. S. P., which was a crude mixture of pale and dark resins of a very inferior appearance. It was in every way much below the U. S. P. standard.

Taylor, Samuel, reports observations on the alcohol solubility of resin of podophyllum and points out that the Pharmacopoeia should permit not exceeding 2 per cent of alcohol insoluble material in this substance.—*Year-Book of Pharmacy*, London, 1908, p. 530-531. (See also *Pharm. J., Lond.*, 1908, v. 27, p. 346.)

Patterson, Francis Denison, asserts that podophyllin, while strongly recommended by German observers for the treatment of uncinariasis, was found to have absolutely no germicidal effect, and that a careful study of its use failed to show for it any noteworthy advantage over other purgatives.—*Therap. Gaz.*, Detroit, v. 32, p. 245.

RESINA SCAMMONII.

Dohme and Engelhardt report that a true scammony resin is very difficult to obtain; most of the samples submitted were either resins extracted by alcohol from the true root, or extracted with a suitable solvent from the Mexican root, *Orizaba mexicana*, or were a mixture of both. While the solubilities in ether and chloroform of the last three mentioned products vary widely from those obtained in the true (virgin) scammony, it is an established fact, however, that these two nonofficial resins are therapeutically as active as the true resin, and it would be very desirable if the committee of revision of the next U. S. P. would investigate this matter, and if found acceptable, as they have found it to be, that the extracted resins also be made official.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 817-818.

Pearson, W. A., thinks that perhaps resin of scammony is not completely soluble in oil of turpentine as required, as a sample made directly from scammony root by U. S. P. method fails to dissolve completely.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 78.

Cowie, W. B., discusses the examination and valuation of scammony resin, presents observations on the properties of pure scam-

monin, and outlines a method for determining the melting point of resins.—Year-Book of Pharmacy, London, 1908, pp. 457–460. (See also Pharm. J., Lond., 1908, v. 27, p. 365; for discussion see p. 406.)

Cowie and Brander report on the examination of Mexican scammony resin; they believe that this substance consists of jalapin and scammonin with another resin of lower melting point.—Year-Book of Pharmacy, London, 1908, pp. 462–464. (See also Pharm. J., Lond., 1908, v. 27, p. 366; for discussion see p. 407.)

Rusby, H. H., asserts that dried scammony roots have long been used for the extraction of dried resin, notwithstanding that this resin is required to be collected from the living root.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 792.

Duncan, W., asserts that *Ipomea orizabensis* root, mixed with some stems, enters commerce for the manufacture of scammony resin, under the name "Mexican Scammony." The resin obtained therefrom (16.5–20.1 per cent) closely resembles true scammony resin in many respects, but melts at 110° instead of 119° and has a saponification value about 25 per cent less.—Pharm. J., Lond., 1908, v. 80, p. 378.

Guignes, P. (Bull. Soc. Chim., 1908, pp. 972–978), points out that certain scammony resins are quite insoluble in ether whilst on the other hand jalap resin is partially soluble.—Analyst., Lond., 1908, v. 33, p. 402.

Smith, Kline & French Co. (Analytical Report, 1908, p. 33) report examining 4 samples of resin of scammony; 1 was a very inferior product, the other 3 were of U. S. P. quality, except that they were not completely soluble in oil or turpentine.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

RESORCINOL.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 31) report that the 5 samples of resorcin examined by them during the year melted between 111° and 111.5°.

Bennet, C. T., asserts that the U. S. P. and B. P. C. give the melting point of resorcinol as 109–111° C., and the textbooks give it from 110–119°. All of a large number of commercial samples examined melted between 110° and 111°. Specially purified samples melted at 110°, which appears to be correct.—Pharm. J., Lond., 1908, v. 80, p. 758.

Philipp Röder (Jahresbericht. Wien, 1908, p. 126) reports that of 5 samples of resorcin examined one was rejected because of the color. The melting point varied from 109.5° to 111° C.

Dunlop, Thomas, asserts, after experimentation, that the pinkish color of resorcin is not due to exposure to light and air as stated in the requirements for pure resorcinol.—Proc. Am. Pharm. Ass., 1909, 503, 798.)

Pharm. Ztg. (1908, v. 53, p. 841) points out that under the designation of "Resorcin. sublimat. pulv. subt." a preparation is now obtainable which makes it quite convenient to prepare perfectly smooth resorcinol ointments with anhydrous bases. The preparation is supplied in the form of a dusty, fine powder, and responds to all the requirements of pure resorcinol.—Proc. Am. Pharm. Ass., 1909, v. 57, p. 341.

Nothen, H. (Med. Klinik. Berl., v. 4, No. 24), reports 2 cases of severe intoxication, 1 fatal, from the external application of resorcin salve.—J. Am. M. Ass., 1908, v. 51, p. 358.

RHAMNUS PURSHIANA.

Beringer, George M., believes that in view of the fact that the efforts of the two revisions of the Pharmacopœia to popularize the official titles *Rhamnus Purshiana* and *Fluidextractum Rhamni Purshianæ* have proven unsuccessful, there appears to be no reason why our Pharmacopœia should not follow the example of other national pharmacopœias and latinize the title of *Cascara*.—Proc. New Jersey Pharm. Ass., 1908, p. 89. (See also Am. J. Pharm., Phila., 1908, v. 80, p. 431.)

The A. Ph. A. committee on U. S. P. doubts the advisability of restricting the pharmacopœial name to the unwieldy "*Rhamnus Purshiana*" so long as *cascara sagrada* is so widely used.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 526.

Schneider, Albert, asserts that the buckthorns constitute the most important medicinal trees of California. Their medicinal value is widely and favorably known. There is some confusion on the part of the collectors and dealers with regard to species and varieties. Physicians and pharmacologists are not clear as to their exact comparative medicinal value. The Indians have long made medicinal use of these plants and the whites ascertained their therapeutic value from the Indians.—Pacific Pharmacist, 1908-9, v. 2, p. 463.

An unsigned article discusses the supply of *cascara sagrada*, points out that the yearly consumption is about 127 carloads, and that the tree lends itself readily to cultivation.—*Ibid.*, v. 2, p. 302.

The report of the Bureau of Plant Industry points out that the destructive methods used in obtaining the valuable native bark of *cascara sagrada* have led to series of experiments looking toward the growing of the tree under cultivation. Two peelings have been made from the experimental trees at Arlington, with favorable outcome.—Ann. Rep., U. S. Dept. Agric., 1908, 1909, p. 280.

Hills, Walter, says that only the bark that has been kept at least 12 months should be used. A monograph to replace the present one is presented.—Rep. (2d interim.) Com. Ref. Genl. Med. Council (Nov. 7 to Apr. 14), Lond., 1908, pp. 8-9.

Tschirch and Pool present a comparative study of the barks of *Rhamnus frangula* and *Rhamnus purshiana*, outline a method for determining the oxymethylantraquinone content, and conclude that the addition of calcined magnesia, while it reduces the bitterness of the resulting preparation, does not affect the content of the combined oxymethylantraquinone which they assert is the active constituent.—Arch. d. Pharm., 1908, v. 246, pp. 320–325. (See also Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 664–672.)

An editorial comments on the work done by Tschirch and Pool on cascara sagrada and rhubarb and their method for determining the total amount of oxymethylantraquinone present in the extracts of these drugs.—Chem. & Drug., Lond., 1908, v. 73, p. 324.

Thomann, J., presents an abstract of the paper by Kroeber, on the comparative value of frangula and cascara sagrada.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 131.

Vanderkleed, Charles E., reports 6 assays of cascara sagrada; 2.57 per cent lowest; 3.48 per cent highest; 2.88 per cent average. All above standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Philipp Röder (Jahresbericht, Wien, 1908, pp. 53–54) reports on 5 samples of rhamnus purshiana which varied from 5.82 to 7.05 per cent of ash and yielded from 24.86 to 32 per cent of extract with 45 per cent alcohol.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xv) call attention to the experiments made by Kroeber, who asserts that frangula is superior, both chemically as well as clinically, to the much more costly cascara sagrada.

Beringer, George M., believes that fluid extract of cascara sagrada is best made with an aqueous menstruum and the concentrated percolate preserved by the addition of 25 per cent of alcohol.—Proc. New Jersey Pharm. Ass., 1908, p. 92. (See also Am. J. Pharm., Phila., 1908, v. 80, p. 435.)

Gane and Webster report a variation of from 36 to 41 volume per cent of absolute alcohol in nine different lots of fluid extract of cascara sagrada.—Drug Topics, N. Y., 1908, v. 23, p. 148.

Hills, Walter, asserts that the proportion of alcohol in the Ph. Brit. formula is too small: it should be increased to 5 fl. oz. to be mixed with 3 fl. oz. of water and added to 12 fl. oz. of the concentrated percolate.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 26.

Goldby, F., contributes a modified formula and process for liquid extract of cascara sagrada.—Pharm. J., Lond., 1908, v. 27, p. 838.

Rentsch, R. outlines a method for distinguishing fluid extract of frangula from fluid extract of rhamnus purshiana. The dried and powdered extract of the former, by sublimation at 140° C., yields

needle-shaped crystals while the latter does not.—Pharm. Post, Wien, 1908, v. 41, p. 285.

Gilmour, J. P., details his method for the preparation of a tasteless liquid extract of cascara sagrada and urges the necessity for a systematic research into the chemistry of cascara.—Pharm. J. Lond., 1908, v. 80, p. 45.

Abraham, A. C., reports that he has used citric acid in tasteless fluid extracts of cascara sagrada for 20 years, not only to render the preparation more palatable but also to avoid the change which would almost certainly take place if an excess of alcohol were left in the cascara.—Pharm. J., Lond., 1908, v. 80, p. 212.

Quant, Ernest, presents a formula for a tasteless liquid extract of cascara in which magnesium hydroxide is used to correct the bitter principle in the bark.—Year-Book of Pharmacy, London, 1908, p. 520. (See also Pharm. J., Lond., 1908, v. 27, p. 354; for discussion see pp. 409, 433, 481.)

Franklin, J. H., asserts that the B. P. C. process, which directs the heating of liquid extract of cascara sagrada with 5 per cent of caustic potash, does not destroy the bitterness, and records his experience with it.—Pharm. J., Lond., 1908, v. 26, p. 673.

Bruder, Otto E. F., asserts that commercial fluid extracts of cascara sagrada vary from 13 to 30 per cent of extractive and suggests that the U. S. P. include a minimum requirement of 25 per cent extractive.—Nat. Druggist, St. Louis, 1908, v. 38, p. 16.

Beringer, George M., outlines formulas for fluid glycerates of cascara sagrada with the procedure to be followed.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 987.

RHEUM.

Schneider, Albert, asserts that the rhubarbs, culinary as well as medicinal, thrive well in California, particularly in the coast region.—Pacific Pharmacist, 1908-9, v. 2, p. 464.

Hesse, O., reviews the history of rhubarb in Europe, discusses the origin of the several indigenous varieties of the drug and reports a study on the chemistry of rhapontic root grown in Austria.—J. f. prakt. Chem., Leipz., 1908, v. 77, pp. 320-352. (See also pp. 383-390.)

Brander, Bruce McD., comments on the widely varying textbook statements regarding the percentage of ash in commercial rhubarb, and gives the results of his experiments with 5 samples, which showed that the variation is not so wide as stated by Greenish but is within the limits given by the B. P. C.—Pharm. J., Lond., 1908, v. 80, p. 147.

Havenhill, L. D., points out that the ash of rhubarb ranges from 4 to 40 per cent; the color of the powder is also quite variable. The water soluble matter ranges from 20 to 45 per cent, and the activity probably varies proportionately.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 932.

Tschirch, A., presents some additional information on the origin of Chinese rhubarb. The northern Chinese rhubarb, he thinks, undoubtedly is derived from *Rheum palmatum*.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 143-145.

Tschirch and Pool have made a comparative study of the oxymethylanthraquinone of frangula, rhamnus, and rhubarb, outline a method for determining the active constituents and give the results of their observations.—Arch. d. Pharm., 1908, v. 246, p. 322.

Oesterle and Tisza present some observations on the chemistry of rhein and its relation to aloe emodin and frangula emodin, and suggest that the results so far obtained would indicate that it represents a mixture of substances rather than a definite compound.—*Ibid.*, v. 246, pp. 432-436. (See also Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 701-703.)

Caesar & Loretz (Geschäfts-Bericht, 1908, p. viii) call attention to the various forms in which Chinese rhubarb is being marketed at the present time, and point out that they have issued a special catalogue illustrating the several forms of this drug and the style of package.

Harvey, T. F., reports that the 90 per cent alcoholic extract of this drug has been found to vary from 33 to 45 per cent (26 samples).—Chem. & Drug., Lond., 1908, v. 72, p. 905.

Rusby, H. H., asserts that rhubarb is sometimes soft, spongy, and of inky blackness in the interior, rendering it apparently almost worthless. A large shipment of 155 cases consisted at least largely of this worthless drug perfectly intermixed.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 792.

Vanderkleed, Charles E., reports 2 assays of rhubarb, 1 per cent and 2.15 per cent, 1 above and 1 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Philipp Röder (Jahresbericht, Wien, 1908, p. 121) reports on 14 samples of rhubarb which were found to contain from 8.77 to 14.28 per cent of ash. He points out that the Ph. Austr. VIII limitation of 12 per cent ash is occasionally exceeded by otherwise acceptable samples.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xlvii) report a marked decrease in the demand for Austrian rhubarb, due probably to the fact, as demonstrated by Tschirch and Christofeletti, that this drug contains neither emodin nor rhein.

Gane and Webster report a variation of from 58 to 63 volume per cent of absolute alcohol in five different lots of fluid extract of rhubarb.—Drug Topics, N. Y., 1908, v. 23, p. 149.

The therapeutic committee of the British Medical Association suggests that extractum and infusum rhei be deleted from the Ph. Brit., as they are not sufficiently used to merit their retention.—Pharm. J.,

Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 5 samples of tincture of rhubarb examined—4 genuine and 1 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Cook, E. Fullerton, believes that the official process for sirup of rhubarb is satisfactory. The change in color he points out is due to the action of the potassium carbonate on the chrysophanic acid.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 961.

Sayre, L. E., reports that the sample of sirup of rhubarb examined had deteriorated.—Bull. Kansas Bd. Health, 1908, v. 4, p. 295.

Cook, E. Fullerton, thinks that aromatic sirup of rhubarb is a satisfactory preparation.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 962.

Beringer, George M., outlines a formula for fluid glycerate of rhubarb, the procedure to be followed, and asserts that this product is thick, clear, rich in odor and taste of the drug, and is an excellent preparation, and the marc shows that the drug was fully exhausted. It mixes clear with sirup or diluted alcohol, but cloudy with water, and alcohol makes a turbid mixture with decided precipitate.—*Ibid.*, v. 56, p. 1000.

RHUS GLABRA.

Beringer, George M., outlines a formula for fluid glycerate of rhus glabra with the procedure to be followed, and asserts that this is a handsome preparation, being a clear red liquid and possessing the acid astringent taste of the drug and fully representing it; should be a very proper form for the exhibition of this remedy. It mixes clear with water, sirup, or diluted alcohol, and slightly cloudy with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1001.

ROSA GALLICA.

The therapeutic committee of the British Medical Association suggests that rosa gallica and its preparations be deleted from the Ph. Brit., as they are unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

"C. C." [C. Crinon?] does not approve the employment in the Ph. Fr. V of 50 per cent in place of 30 per cent alcohol for extracting rose leaves for honey of rose; he says the product obtained by the old formula was highly colored, very aromatic, and kept well.—Répert. d. pharm., Par., 1908, v. 20, p. 537.

Cook, E. Fullerton, asserts that sirup of rose is a satisfactory preparation in every way.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 962.

Beringer, George M., outlines a formula for fluid glycerate of red rose, the procedure to be followed, and asserts that this product is

not entirely satisfactory, being exceedingly astringent, but deficient in color. The addition of acid would possibly improve the formula. It mixes clear with sirup or diluted alcohol, but cloudy with water or alcohol.—*Ibid.*, v. 56, p. 1000.

RUBUS.

Cook, E. Fullerton, believes that the process for making sirup of rubus should be modified if a suitable pharmaceutical preparation is to be obtained.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 962.

Beringer, George M., outlines a formula for fluid glycerate of rubus, the procedure to be followed, and asserts that the product deposited a gray-colored sediment, closely adhering to the bottom of the bottle, and from this it was readily strained. It is now a somewhat opalescent, very astringent liquid that mixes clear with sirup or diluted alcohol, cloudy with water and turbid with alcohol.—*Ibid.*, v. 56, p. 1001.

SABAL.

Schneider, Albert, asserts that *Sabal serrulata*, Nutt, a native of the Southern States, grows in the southern portions of California.—Pacific Pharmacist, 1908-9, v. 2, p. 466.

Beringer, George M., thinks that sabal should be dismissed or formulas for fluid extract and tincture should be included.—Proc. New Jersey Pharm. Ass., 1908, p. 89. (See also Am. J. Pharm., Phila., 1908, v. 80, p. 431.)

SACCHARUM.

The Pharm. J., Lond., (1908, v. 26, p. 722) quotes from a report of the president of the board of trade to the House of Commons the estimated production of raw beet sugar during the sugar season 1906-7 showing the total for Europe of 6,579,379 and for the United States 433,019 tons.

A number of references on the cultivation of sugar cane and the production of sugar will be found in the Journal d'Agriculture tropicale, Paris, 1908, v. 8.—See also Exp. Sta. Rec.

Scoville, W. L., reports that granulated sugar usually contains small amounts of reducing sugars.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 774.

Searby, W. M., points out the importance of using only the best available sugar in pharmaceutical preparations. He recommends confectioner's A sugar or crystal A sugar, either of which he believes to be preferable to the ordinary granulated variety.—*Ibid.*, v. 56, p. 967.

Pinchbeck, G., suggests that a minimum saccharimetric reading, equivalent to 99.8 of sucrose, should be insisted on and that the tests for faced sugars be amplified.—Pharm. J., Lond., 1908, v. 26, p. 671.

Kendall and Sherman discuss the detection and identification of certain reducing sugars by condensation with *p*-brom-benzyl-hydrazine.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1451-1455.

Zerban and Naquin discuss the determination of reducing sugars by the method proposed by Munson and Walker and point out that the time may be appreciably shortened by filtering the precipitate through a Neubauer instead of a porcelain Gooch crucible and weighing the precipitate as cupric oxide after heating for 10 minutes over a Bunsen burner.—*Ibid.*, v. 30, pp. 1456-1461.

Taylor, Alonzo Englebert, presents some observations on the inversion of cane sugar and maltose by ferments. He concludes that his experiments appear to confirm the results published by Hudson, that the fermentation follows the course of a monomolecular reaction.—*J. Biol. Chem.*, 1908-9, v. 5, pp. 405-407.

Hudson, C. S., discusses the inversion of cane sugar by invertase.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1160-1166.

Gregor, Georg, discusses the quantitative estimation of sugar and reports comparative results with the polariscope, Wiedenkaff fermentation tube and Lohnstein fermentation saccharometer.—*Ztsch. d. allg. österr. Apoth.-Ver.*, Wien, 1908, v. 46, pp. 419-420.

Watts and Tempany (*J. Soc. Chem. Ind.*, 1908, 27, 53-57) discuss the polarimetric determination of sucrose, the effect of clarification with basic lead acetate on the optical activity, and copper reducing power of sugar solutions.—*Abstr. J. Chem. Soc., Lond.*, 1908, v. 94, Pt. II, p. 236.

Mayezima, T. (*Journ. of the pharm. soc. of Japan*), presents a comprehensive contribution on improved methods for the determination of sugar.—*Pharm. Zentralh.*, 1908, v. 49, p. 687.

Bryan and Zerban present the referee report on cooperative work done in connection with sugar.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., pp. 168-180. (*Bull. Bur. Chem., U. S. Dept. Agric.*, 1909, No. 122.)

For additional references on the chemistry of sugar see under "Tests."

SACCHARUM LACTIS.

Lehn & Fink (*Annual Report for 1908*, pp. 26-27) assert that the pharmacopœial tests for sugar of milk are entirely inadequate, and outline a method which they think is more satisfactory. The results obtained by this method are given.

Dohme and Engelhardt assert that the test of the revised U. S. P. to detect cane sugar in milk sugar works very well.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 817.

Pearson, W. A., asserts that the test for absence of cane sugar in sugar of milk is fallacious.—*Am. J. Pharm., Phila.*, v. 80, p. 78.

Guérin, G., outlines a method for the determination of sugar of milk.—*J. de pharm. et de chim.*, Par., 1908, v. 27, p. 236.

Anselmino, O., discusses the testing of sugar of milk and the difficulties of differentiating foreign sugars. For the detection of glucose and saccharose he recommends the fermentation test.—*Pharm. Zentralh.*, 1908, v. 49, pp. 99–101.

An unsigned abstract reviews several methods for testing the identity and purity of sugar of milk, and calls attention to the fermentation test proposed by O. Anselmino, by means of which it is possible to detect as low as 5 per cent of glucose or cane sugar with accuracy.—*D.-A. Apoth.-Ztg.*, N. Y., 1908–9, v. 29, p. 4.

Hudson and Brown discuss the heats of solution of the three forms of milk sugar and point out that each of the forms of milk sugar shows two heats of solution, according as the rate of the balanced reaction that occurs in milk sugar solutions proceeds very slowly or very rapidly. In the former case the initial heat of solution is observed, in the latter the final heat of solution, which is the sum of the initial heat of solution and the heat generated by the rapidly progressing reaction, called the heat of passage.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 860–971.

Smith, Kline & French Co. (Analytical Report, 1908, p. 33) report examining 29 commercial samples of sugar of milk. Four had an objectionable odor and appearance; three contained 0.45, 1.12, and 1.88 per cent of ash, respectively, all being more than the U. S. P. limit of 0.25 per cent.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 78.

Blome, Walter H., reports that one sample of milk sugar contained 23 per cent of cane sugar according to the present U. S. P. test, though it was proven to be free from that substance by other tests that are claimed to be entirely trustworthy. Of 25 other samples tested 6 contained a trace or more of cane sugar. One sample indicated the presence of about 0.5 per cent, as compared with a known mixture of pure milk and cane sugars.—*Proc. Michigan Pharm. Ass.*, 1908, p. 94.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 127) reports on four samples of sugar of milk examined, one of which was rejected because of partial insolubility in water. The samples contained from 0.21 to 0.28 per cent of ash.

Caesar & Loretz (*Geschäfts-Bericht*, 1908, p. lxxxiii), in discussing the tests for sugar of milk, point out that a desirable quality of this drug should yield a 1:1 hot aqueous solution that is perfectly transparent, odorless, and having a clean, sweet taste.

Shimidzu, Yoshitaka, discusses the quantitative estimation of sugar of milk by means of ammoniacal copper solution. He gives a formula for a modified solution, outlines his method of procedure, and gives a

summary of the results obtained. He concludes that lactose, after inversion by the method outlined by him, can be titrimetrically determined with quite as much accuracy as can glucose.—*Biochem. Ztschr.*, Berl., 1908, v. 13, pp. 243–261.

Vandevelde, A. J. J., reports observations on milk sugar destroying enzymes that are present in milk.—*Biochem. Ztschr.*, Berl., 1908, v. 11, pp. 61–66.

SAFROLUM.

Beringer, George M., calls attention to the official definition of safrol and asserts that this definition leaves out an important statement, namely, the preparation which must precede the purification. In the official statement the following should be added before the word purified, “separated by fractional distillation.”—*Proc. New Jersey Pharm. Ass.*, 1908, p. 91. (See also *Am. J. Pharm.*, Phila., 1908, v. 80, p. 433.)

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 151) report that the safrol market has been extremely dull, the prices consequently being very low.

SAL CAROLINUM FACTITIUM N. F.

Frerichs, G., reports a systematic study of the commercial artificial Carlsbad salt, points out a number of evident discrepancies, and suggests that the conscientious apothecary will either make galenical preparations himself or examine them chemically and otherwise, so that he is in position to guarantee the identity and purity of the compound.—*Apoth.-Ztg.*, Berl., 1908, v. 23, pp. 135–136.

Merck, E., discusses the composition of the commercially available, crystallized, artificial Carlsbad salt. He points out the difficulty of presenting a crystallized salt that will fully represent the composition of the natural water and asserts that the Ph. Germ. IV preparation is more desirable on this account.—*Apoth.-Ztg.*, Berl., 1908, v. 23, p. 398.

Thomann, J., reviews some of the recent communications bearing on the production and adulteration of artificial Carlsbad salt and points out the desirability of preparing the mixture in the laboratory rather than devoting the time necessary to examine the commercial mixtures which frequently do not comply with the requirements of the pharmacopœias.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, p. 292.

Matthes and Serger present some additional comments on the commercial artificial Carlsbad salt.—*Apoth.-Ztg.*, Berl., 1908, v. 23, pp. 631–632.

Welmans, P., calls attention to an early analysis of Carlsbad salt in which the analyst determines it to be practically pure sodium sulphate.—*Pharm.-Ztg.*, Berl., 1908, v. 53, p. 507.

SALICINUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 33) report examining 4 samples of salicin; the melting points of 2 lots were below 201.4° C., as required, being 196 and 198° C., respectively.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

Omi, Kaoru, discusses the behavior of salicin in the normal and in the diabetic organism.—Biochem. Ztschr., Berl., 1908, v. 10, pp. 258-263.

Kusumoto, Chasaburo, reports observations on the elimination of ethylsulphuric acids in the urine of dogs, following the administration of salicin.—*Ibid.*, 1908, v. 10, pp. 264-274.

Sigmund, Wilhelm (Monatshefte, 30, 77-87), reports experiments on salicin and arbutin splitting enzymes.—Chem. Abstr. Am. Chem. Soc., 1909, v. 3, p. 1029.

SALVIA.

Eriksson, Ella, discusses and figures the structural characteristics of the stems of *Salvia officinalis*.—Ber. d. pharm. Gesellsch., Berl., 1908, v. 18, p. 250.

Farwell, A. O., asserts that domestic sage, or that form cultivated in this country for commercial purposes, is derived from *Salvia officinalis* Lin., var. *tenuior* Alef. As a substitute for this we have been offered in large quantities, under the name of domestic sage, the leaves of *Audibertia polystachya* Bth.—Merck's Rep., N. Y., 1908, v. 17, p. 34.

Gómez de la Maza, Manuel, enumerates *Salvia officinalis* Lin. among the medicinal plants cultivated in Cuba.—Rev. Med. Cir., Habana, 1908, v. 13, p. 553.

Adamović, L., discusses the significance of the occurrence of sage in Serbia and concludes that the assumption that the plant is a tertiary relic in this section of Europe is well founded.—Bot. Jahrb. Engler, Leipz., 1908, v. 41, pp. 175-179.

Beringer, George M., outlines a formula for fluid glycerate of salvia with the procedure to be followed, and asserts that this product has deposited but a trace of sediment, is clear, and possesses the well-marked odor and taste of the drug which it appears well to represent. It mixes clear with water, sirup, or diluted alcohol, and turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1001.

Whitling, Henry T. M., reports a fatal case from an overdose of oil of sage, taken as an asthma cure.—Lancet, Lond., 1908, v. 174, p. 1074.

SANGUINARIA.

Holm, Theo., describes and illustrates *Sanguinaria canadensis* L.; also the internal structure of the vegetative organs.—Merck's Rep., N. Y., 1908, v. 17, pp. 209-212.

Smith, Kline & French Co. (Analytical Report, 1908, p. 33) report that the 1 sample of sanguinaria examined by them contained 2.42 per cent of total alkaloids and 1.40 per cent of sanguinarine.

Vanderkleed, Charles E., reports 1 assay of sanguinaria yielding 3.30 per cent of total alkaloid.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Bernegau, L. Henry, asserts that of the commercial varieties of sanguinarine nitrate 1 sample was found to assay only 51.4 per cent, one 61.2 per cent, and another 75.3 per cent pure. The highest assay was 89.5 per cent.—Am. J. Pharm., Phila., 1908, v. 80, p. 224.

Feil, Joseph, in discussing the official fluid extract of sanguinaria says that the amount of precipitate in the old preparation is enough to give a rather unsightly appearance, and the odor is not as pleasant as a recently prepared article; the taste, however, is about as acrid, indicating that the medicinal activity is not impaired.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 884.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22) report 4 samples of fluid extract of sanguinaria which assayed, total alkaloids in 100 cc. from 2.68 to 4.8 gms.

Beringer, George M., outlines a formula for fluid glycerate of sanguinaria with the procedure to be followed, and asserts that this product has not proven to be entirely satisfactory, as it has developed considerable sediment. It mixes cloudy with water or sirup, nearly clear with diluted alcohol but turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1002.

An abstract (Journal of Therapeutics and Dietetics) asserts that *Sanguinaria canadensis* is a remedy which should not be lost sight of, as it will prove exceedingly beneficial in many obstinate coughs which have heretofore defied all means and methods of relief.—Eclectic Rev., 1908, v. 11, pp. 17-18.

Betts, Norman S., in discussing the management of the menopause, asserts that the transitory hyperemias have been often benefited by *Sanguinaria canadensis*.—Hahnemann. Month., Phila., 1908, v. 43, p. 426.

McGeorge, Wallace, presents suggestions as to the use of sanguinaria in a variety of cases. He asserts that sanguinaria is essentially an American remedy and has probably cured more cases of American sick headache than any other remedy. It is also indicated in the depressing symptoms of la grippe, in pneumonia, and in neuritis.—Hahnemann. Month., Phila., 1908, v. 43, p. 930.

SANTONICA.

Rusby, H. H., found santonica containing powdered birch bark.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 773.

An unsigned article discusses some of the economic conditions existing in connection with *Artemisia cina* and the attempts on the part of the Germans to control the production and sale of this article.—Chem. & Drug., Lond., 1908, v. 73, p. 212.

SANTONINUM.

Philipp Röder (Jahresbericht, Wien, 1908, p. 128) reports on 3 samples of santonin, the melting point of which ranged from 170 to 172° C.; 1 sample, melting at 171° C., gave a brown coloration with concentrated sulphuric acid, and was rejected.

Lucchini, Virginio, reports finding citric acid as an adulterant of santonin.—Boll. chim. farm., Milan, 1908, v. 47, pp. 7-9. (See also abstract in Pharm. Zentralh., 1908, v. 49, p. 365.

An abstract calls attention to the substitution of citric acid for santonin reported by Virginio Lucchini.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 19.

Klein, Joseph, replies to a criticism by Wedekind regarding the chemical constitution of santonin.—Ber. d. deutsch. chem. Gesellsch., 1908, v. 41, pp. 1094-1095.

The Pharm. J., Lond. (1908, v. 26, p. 791), reports a coroner's inquiry into the death of a 4-year old child, at Kinsham, as a result of taking a "worm chocolate" which contained one grain of santonin. An editorial note (*Ibid.*, p. 799) remarks that so far as can be ascertained this is the smallest fatal dose ever recorded. Mumbray, R. G., commenting on the above, says that it certainly surpasses his experience of 70 years. (See p. 819.)

An abstract reports the poisoning of a 3½-year old boy from 0.088 gm. of santonin, and calls attention to the fact that the dose in this instance was but little more than half the maximum daily dose usually permitted.—Pharm. Zentralh., 1908, v. 49, p. 801.

SAPO.

Feldhaus, F. M., presents a contribution to the history of soap.—Chem. Ztg., Cöthen, 1908, v. 32, pp. 837-838.

Steiner, Oskar, reviews the development of the soap industry during the last 10 years.—*Ibid.*, v. 32, pp. 445-446, 458-459.

Gane and Webster point out that the U. S. P. test for free alkali in soap is inaccurate if the soap contain both free alkali and free fat, and present a report of examinations of a number of samples.—Drug Topics, N. Y., 1908, v. 23, p. 148.

Boulez, Victor, discusses the chemical control of the manufacture of soap and points out that such control would undoubtedly be an advantage.—Bull. Soc. chim., Belg., 1908, v. 22, pp. 208-218.

Bernegau, L. Henry, asserts that a large percentage of samples sold as "pure olive oil soap" were found to contain large amounts of animal fats.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 224.

Scoville, W. L., found several samples of Castile soap containing animal fats.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 774.

An editorial discussing white Castile soap points out that much of the commercial article is made from coconut oil and does not comply with the pharmacopœial requirements for "soap."—*Drug Topics*, N. Y., 1908, v. 23, pp. 145-146.

van Wermeskerken, J. L., reports that a sample of soap did not dissolve in cold alcohol and when dissolved in hot alcohol formed a gelatinous mass on cooling.—*Pharm. Weekblad*, 1908, v. 45, p. 211.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 34) assert that the mottled varieties of Castile soap examined by them were almost invariably prepared from sesame oil. Of 30 samples examined, 6 were either questionable or plainly prepared from oils other than olive.

Walker, Percy H., discusses the testing of soap and enumerates the substances that are to be sought for.—*Bull. Bur. Chem., U. S. Dept. Agric.*, No. 109, 1908, pp. 44-48.

Hoger, A., discusses the chemical examination of soap and of soap powders.—*Pharm. Zentralh.*, 1908, v. 49, p. 1079-1082.

Richardson, W. D., discusses the nature of transparent soap and the factors which tend to produce the formation of soap crystals in transparent soap under varying conditions, and concludes that crystal formation, while it does not reduce in any degree the detergent power of a soap, renders it more or less unsalable to a public which buys according to the appearance of goods.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 414-420.

Forbes Ross, F. W. (*Chem. Trade J.*, 43, 540-1), describes a time test to determine by hydrolysis the apparent or latent alkalinity of any soap.—*Chem. Abstr.*, *Am. Chem. Soc.*, 1909, v. 3, p. 965.

Reichenbach, H., reports experiments to determine the disinfectant value of the several constituents of soap.—*Zentralbl. f. Physiol. u. Pathol. d. Stoffwechsels.*, 1908, v. 3, p. 867.

Rasp, C. (*Ztschr. f. Hyg.*, Nov., 1907, v. 58, pp. 45-63), discusses the germicidal action of soaps *per se* and in combination with phenols.—*Ibid.*, v. 3, p. 255.

Senator, H., discusses the internal use of soap in the treatment of cholelithiasis.—*Fol. Therap.*, 1908, v. 2, pp. 77-78.

Cook, Geo. W., in discussing the desirability of adapting the constituents of tooth powders to the individual needs, asserts that a tooth powder containing upward of 1.5 per cent of soap, if used at all frequently, will cause a degeneration of the mucous tissue.—*Dental Digest*, 1908, v. 14, p. 629.

SAPO MOLLIS.

Raubenheimer, Otto, suggests that the synonym "Green soap" be deleted from future editions of the U. S. P., as the official soap is not green and can not be made to have a green color unless artificially colored.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 60.

Kobbe, F., outlines a process for preparing Sapo Kalinus of the Ph. Germ. IV. He suggests heating the linseed oil and the solution of potassium hydroxide separately and mixing, at 60-65° C., in a vessel that will hold the heat for considerable time.—Apoth. Ztg., Berl., 1908, v. 23, p. 136.

Stanislaus, I. V. S., recommends the following formula for the expeditious preparation of a soft soap without heat: Place 300 gm. of linseed oil in a strong capacious bottle, add 61 gm. of solution of potassium hydroxide (U. S. P.), 122 cc. of alcohol, and 150 cc. of distilled water, and agitate the mixture vigorously until saponified. This soft soap can be used for a variety of purposes.—Proc. Pennsylvania Pharm. Ass., 1908, p. 162.

Harvey, T. F., thinks that if a limit for water and glycerol in sapo mollis be prescribed, 50 per cent would be a reasonable figure; for free alkali, 0.25 per cent would meet all requirements. The directions should not imply that the soap is to be dried and powdered.—Chem. & Drug., Lond., 1908, v. 72, pp. 905.

Gane and Webster point out that, in the case of soft soap, makers do not attempt to make the soap neutral, as the resulting product is likely to be too "stringy." An examination of four samples showed from 0.14 to 0.211 of free alkali as KOH.—Drug Topics, N. Y., 1908, v. 23, pp. 148.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 35) examined about 50 samples of soft soap with satisfactory results. They present a comparison of figures obtained from samples prepared with castor oil and those from olive oil, and conclude that the use of any quantity of castor oil would hardly escape detection.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p 15) found 9 samples of tincture of green soap which contained methyl alcohol.

A number of formulas for making liquid antiseptic soap are reprinted.—Am. Druggist, N. Y., 1908, v. 52, p. 12.

Rasp, C., reports observations to determine the disinfectant properties of soap with and without the addition of phenol. Experiments with soft soap demonstrated that their disinfectant value varied and that these variations were not readily explainable. The addition of phenols materially increased the disinfectant value of soaps.—Hyg. Rundschau, 1908, v. 18, pp. 1129-1130.

Thomann, J., reviews some of the observations that have been recorded on the influence of soaps *per se*, and in combination with phenols, on bacteria.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 57.

SARSAPARILLA.

Rusby, H. H., found three lots of Mexican sarsaparilla to be all butts or rhizomes.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 773, 792.

Sayre, L. E., points out that the menstruum for fluid extract of sarsaparilla was changed from 31 per cent alcohol, U. S. P. 1890, to diluted alcohol, U. S. P., VIII.—Merck's Rep., N. Y., 1908, v. 17, p. 4.

Cook, E. Fullerton, thinks that compound sirup of sarsaparilla is a striking illustration of a proper pharmacopœial process, and the resulting sirup is pharmaceutically perfect.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 962.

Beringer, George M., believes that compound sirup of sarsaparilla would be improved by increasing the quantity of essential oils of sassafras, anise, and gaultheria from 0.2 cc. to 0.5 cc. The dilution of the mixed fluid extracts and oils with water, filtration, and subsequent exposure to heat, as directed, likewise occasions loss of flavoring, and the product has no advantages over that produced by the customary practice of adding the mixed fluid extracts and essential oils to sirup. The Pharmacopœia could, with no loss of authority, be made in this to conform to the very general custom. As "oil of gaultheria" is very rarely obtainable, oil of betula should be officially substituted.—Proc. New Jersey Pharm. Ass., 1908, p. 93.

Hommel, P. E., asserts that sirup of sarsaparilla compound is but seldom employed for any alterative effect, because the average physician knows that sarsaparilla has none. Recognizing the fact that physicians desire a good alterative sirup combined with mineral alteratives, he would suggest that we give them the real thing. Burdock, yellow dock, stillingia, and phytolacca should be exhibited in the form of a compound sirup in the U. S. P.—*Ibid.*, 1908, p. 101.

Beringer, George M., outlines a formula for fluid glycerate of sarsaparilla, with the procedure to be followed, and asserts that this product is an ideal preparation, clear, bright, and represents the drug fully. It mixes clear with water, sirup, or diluted alcohol, but is turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1002.

SASSAFRAS.

The therapeutic committee of the British Medical Association suggests that sassafras radix be deleted from the Ph. Brit., as it is unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Woolsey, J. F., reports on two lots of sassafras bark which were rejected, one especially of poor quality and mixed with wood.—Proc. Pennsylvania Pharm. Ass., 1908, p. 81.

SCAMMONIUM.

The therapeutic committee of the British Medical Association suggests that scammonium be deleted from the Ph. Brit., as it is not used and possesses no advantages over the resin and is much more expensive.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Gane and Webster assert that very little virgin scammony is obtainable nowadays, owing to the more general use of the resin for manufacturing purposes. Most of the latter is obtainable from the so-called "Mexican" scammony, which really is Mexican woody, or Orizaba, jalap, and consequently much cheaper than that obtained from the true scammony root. One sample of the so-called "Aleppo" scammony only yielded 25 per cent of ether soluble resin. The ash content was 3.35 per cent and the balance largely wheat flour, added for purposes of adulteration. They also point out that true scammony always contains a very small percentage of starch, which exudes with the juice when the root is cut to obtain the true article.—Drug Topics, N. Y., 1908, v. 23, p. 261.

Kebler, L. F., reports on a sample of scammony which contained about one-third of the ether soluble resins required by the U. S. P.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 781.

Heuisler, P. I., reports that owing to the scarcity of "virgin" resin, the resin extracted by alcohol from true scammony root, as well as from *Ipomœa scammonia*, is marketed extensively. The last-mentioned resins are therapeutically as active as the "virgin" resin, but they exhibit other physical properties.—Proc. Maryland Pharm. Ass., 1908, p. 35.

Duncan, William, contributes a brief note on Mexican scammony, of which he gives the characteristics. He expresses the belief that there are a number of different roots coming into the market under the name of Mexican scammony.—Pharm. J., Lond., 1908, v. 80, p. 378. (See also *Ibid.*, p. 381, and Year-Book of Pharmacy, London, 1908, p. 464.)

Rusby, H. H., reports three shipments of false roots.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 773.

Carr and Reynolds found scammony root to vary from 7.75 to 10.8 per cent resin.—Pharm. J., Lond., 1908, v. 80, p. 543. (See also *Resina scammonii*.)

SCILLA.

Smith, Kline & French Co. (Analytical Report, 1908, p. 34) report that the one sample of squill examined by them contained about 1 per cent of stones.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

Woolsey, J. F., reports on a shipment of squill which was of excellent appearance, but mixed with 2 per cent white quartz rock.—Proc. Pennsylvania Pharm. Ass., 1908, p. 81.

Philipp Röder (Jahresbericht, Wien, 1908, p. 38) reports that a sample of powdered squill examined by him was well within the 5 per cent of ash permitted by the Ph. Austr. VIII; when extracted with 70 per cent alcohol, yielded 66.8 per cent of extract.

Carr and Reynolds have found good scilla to possess approximately three times the activity of poor specimens, and quote the opinion of Dixon and Haynes that hundreds of patients die annually because of the great variability of this drug and its allies.—Pharm. J., Lond., 1908, v. 80, p. 543.

Beringer, George M., asserts that the now official fluid extract of squill does not fully represent the drug, as no attempt is made to secure complete extraction.—Am. J. Pharm., Phila., 1908, v. 80, p. 435. (See also Proc. New Jersey Pharm. Ass., 1908, p. 93.)

Kleinschmidt, A. A., records an experience with the U. S. P. formula for fluid extract of squill, and expresses the belief that the U. S. P. VIII process is exceedingly unsatisfactory and that economy should not be considered in pharmacopœial preparations when it conflicts with efficacy.—Nat. Druggist, St. Louis, 1908, v. 38, p. 128.

Feil, Joseph, believes that the official fluid extract of squill keeps well, the amount of precipitate in old preparations is slight, the odor is ethereally pleasant, and the taste sufficiently nauseating to indicate decided medicinal value.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 884.

Hemm, Francis, commends the adoption of a standard strength fluid extract for a drug easily extracted and containing medicinal principles of no potent nature. Without discussing the merits or demerits in change of menstruum, he thinks the practical results will make the Pharmacopœia more popular.—Proc. Missouri Pharm. Ass., 1908, p. 85.

Hills, Walter, believes that, in making vinegar of squill, the product should be made up to a pint with diluted acetic acid, as in the process for preparing tincture by maceration the product is not made up to a definite volume.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 3.

Cook, E. Fullerton, asserts that sirup of squill of the U. S. P. VIII keeps well and does not precipitate. He, however, thinks the formula for compound sirup of squill could be improved and suggests heating the mixed fluid extracts to boiling.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 962.

Mittelbach, W., discusses the compound sirup of squill and suggests reversing the finishing steps in the procedure as given in the U. S. P. formula.—*Ibid.*, v. 56, p. 949.

Beringer, George M., outlines a formula for fluid glycerate of squill and the procedure to be followed. He asserts that, on evaporating the percolate, there formed a flocculent coagulated albuminous precipitate. This was strained off and the finished product filtered through absorbent cotton, and this has since remained clear. It is quite bitter and acrid and the mare indicates extraction. It mixes clear with water, sirup, or diluted alcohol; in excess it produces a milky turbidity.—*Ibid.*, v. 56, p. 1003.

Horne, B. S., presents a re-study of *Scilla maritima*. This drug, he asserts, has an elective affinity for the mucous membrane of the lungs. In proper doses it excites (shocks), thus promoting the secretory process. In old-school medicinal doses it produces great shock to the nervous system, producing nausea and diminishing the action of the pulse. A dose of the fluid extract of squill for an adult is from 1 to 5 minims, according to orthodox medicine. He who must use large doses should leave squill alone. "Give the smallest possible dose until you get the desired effect."—*Eclectic M. J.*, Cincin., 1908, v. 68, pp. 256-260.

SCOPARIUS.

Carr and Reynolds found that *Cytisus scoparius* varied from 0.07 per cent to 1.06 per cent sparteine sulphate. They give an interesting table showing the variation in percentage of sparteine sulphate in samples of the herb, gathered month by month from the same locality during a year.—*Pharm. J.*, Lond., 1908, v. 80, p. 543.

Beringer, George M., outlines a formula for fluid glycerate of scoparius with the procedure to be followed, and asserts that it is a satisfactory preparation. It mixes clear with sirup or diluted alcohol, but cloudy with water and turbid with alcohol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1002.

SCOPOLA.

The A. Ph. A. committee on the U. S. P. doubts the advisability of continuing the recognition of extract of scopola in view of the fact that the extract is largely used as a substitute for extract of belladonna.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 528.

Weigel, G., points out that the U. S. P. and the Ph. Japon. are the only pharmacopœias in which scopola has been included. In the former the drug occurs with belladonna, while in the latter it is evidently official in place of the root of belladonna. He describes

the two available varieties of scopola.—Pharm. Zentrallh., 1908, v. 49, p. 915.

Umney and Bennett doubt the advisability of introducing scopola, as the nature and physiological effects of its alkaloids are so similar to those of belladonna.—Year-Book of Pharmacy, Lond., 1908, p. 516.

Kraemer, Henry, points out and illustrates some of the distinguishing morphological characters of belladonna and scopola.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 819-824. (See also Pharm. Era, 1908, v. 40, pp. 489-491.)

Rusby, H. H., asserts that a lot of Japanese scopola has been imported as European scopola and points out that, while it has been asserted that these two drugs are identical, an assay showed that this particular lot was very deficient in alkaloid.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 774, 790.

Chem. & Drug., Lond. (1908, v. 72, p. 937), notes that, at the London drug auctions on June 18, about 3 tons of *Scopola japonica* were offered and bought in at 25s. per cwt. There is practically no sale for this belladonna substitute on the London market, but in the United States it and the root of *S. carniolica* are used in the manufacture of belladonna plasters. *S. japonica* and *S. carniolica* are so closely allied that it is doubtful whether there is any specific distinction.

Heuisler, P. I., reports that 50 per cent of the samples of this root had to be rejected, falling below the standard of the U. S. P.—Proc. Maryland Pharm. Ass., 1908, p. 35.

Dohme and Engelhardt report that 60 per cent of the samples of scopola root were deficient in alkaloids, a drug yielding from 0.7 to 0.8 per cent of alkaloids being impossible to get. They would again point out that this drug should be made officially interchangeable with belladonna, and suggest the appointment of a committee to study the question and report thereon.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 818.

Watanabe, M., discusses the constituents of the herb of *Scopola japonica* in comparison with those of the root. He found a total of 0.197 per cent of alkaloid, consisting largely of hyoscyamine with some scopolamine. He suggests that the herb might be used as a substitute for hyoscyamus.—J. Pharm. Soc. Japan, 1908, p. 1139.

SCOPOLAMINÆ HYDROBROMIDUM.

Beringer, George M., points out that if hyoscyne and scopolamine are identical and the article is commonly sold under either name, then the U. S. P. should certainly eliminate one title and make, in the text, a statement of the identity of these two commercial alkaloidal salts. He further recommends the retention of scopolaminæ

hydrobromidum as indicating the most common source, scopolia.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 433. (See also *Proc. New Jersey Pharm. Ass.*, 1908, p. 91.)

Dohme and Engelhardt report that only the optically active scopolamine hydrobromide is now being marketed. In former years they often received the inactive variety, but during the last year only one shipment showed a deficiency in the rotatory power.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 818.

Webster, W., presents some observations to determine the efficiency of scopolamine on poisoning by chloroform or other anæsthetics.—*Biochem. J., Liverpool*, 1908, v. 3, pp. 129-145.

Abbott, W. C., argues that commercial hyoscyne and scopolamine are not identical, though the pure alkaloids are chemically identical.—*J. Am. M. Ass.*, 1908, v. 50, pp. 218-222.

Reber, Wendell, discusses the comparative potency of hyoscyne and scopolamine hydrobromide and states that hyoscyne is more active than scopolamine.—*Ibid.*, 1908, v. 50, pp. 1323-1327.

Kionka, H., discusses the dangers of scopolamine anæsthesia and their prevention. He emphasizes the need for using only pure preparations.—*Therap. d. Gegenw., Berl.*, 1908, v. 49, pp. 11-17.

The editor of the "Therapeutics" column discusses scopolamine and advises against the use of scopolamine and morphine as a prelude to general anæsthesia because of the respiratory depression which will interfere with observations by the anæsthetist of the real effect of the anæsthetic inhaled.—*J. Am. M. Ass.*, 1908, v. 51, p. 1511.

For two papers on scopolamine-morphine anæsthesia in obstetric surgery, see Krönig and Buist, *Brit. M. J., Lond.*, 1908, v. 2, pp. 805-808, 808-809; also McNaughton-Jones, on scopolamine-morphine and chloroform anæsthesia, *Ibid.*, pp. 809-810. For additional references, see *Index Medicus* and *J. Am. M. Ass.*

SCUTELLARIA.

Farwell, A. O., asserts that the U. S. P. admits the use of only one species, *Scutellaria lateriflora* Lin. This is rather difficult to obtain free of an admixture of other species, chief of which is *S. galericulata* Lin. Other species are collected and marked as substitutes. Recently we received a sample of a large quantity of *Eupatorium agreatoides* Lin. f., held as scutellaria.—*Merck's Rep., N. Y.*, 1908, v. 17, p. 35.

Beringer, George M., outlines a formula for fluid glycerate of scutellaria.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1002.

Yfe, John William, asserts that *Scutellaria lateriflora* exerts a direct influence upon the cerebrospinal centers, controlling irritation. It constitutes an excellent remedial agent in all diseases in which a tonic combining nervine powers is deemed necessary, such, for in-

stance, as chorea, convulsions, tetanus, tremors, delirium tremens, hysteria, monomania, and that undefined condition known as nervousness.—*Eclectic Rev.*, 1908, v. 11, p. 346.

An editorial note asserts that scutellaria is a drug well worth trial in nervous insomnia.—*Ibid.*, 1908, v. 11, p. 284.

SENEGA.

Hood, S. C. (Vermont Sta. Rept., 1907, pp. 371–386), reports that it has been demonstrated that seneca snakeroot can be successfully grown under cultivation.—*Exp. Sta. Rec.*, 1908–9, v. 20, p. 335.

Muller, Rudolf, describes and figures senega and a number of the drugs that have been used as adulterants of this drug or occur as occasional contaminations. The illustrations consisting of 18 plates made from original photomicrographs are unusually good.—*Pharm. Praxis.*, 1908, v. 7, pp. 309 to 325, and 18 plates.

Hartwich, C., describes and figures the structural characteristics of a false senega. He was unable to identify the root positively, but believes it to be either *Polygalacea* or *Rubiacea*.—*Schweiz. Wehnschr. f. Chem. u. Pharm. Zürich*, 1908, v. 46, pp. 537–540.

Also describes and figures a second false senega of unknown origin.—*Ibid.*, 1908, v. 46, pp. 749–751.

Tunmann, O., discusses the contaminations that occur in senega and calls attention to the difficulty of detecting adulterations in the comminuted or ground drug. He describes and illustrates the structural characteristics of the stem and the leaf of senega.—*Pharm. Zentralh.*, 1908, v. 49, pp. 61–64.

Blome, Walter H., reports on 2 samples of senega. Both contained large amounts of stem. The roots were unusually small.—*Proc. Michigan Pharm. Ass.*, 1908, p. 95.

Inland Rev. Dept., Canada, reports finding senega mixed with twigs and shoots of *Polygala senega* and with roots of ginseng, American valerian, etc.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 774.

Philipp Röder (Jahresbericht, Wien, 1908, p. 122) reports finding a sample of senega which yielded 14.73 per cent of ash, the maximum of the Ph. Austr. VIII being 5 per cent.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xlix) report on a sample of senega containing upward of 20 per cent of a more or less closely related root.

Sayre, L. E., points out that the menstruum for fluid extract of senega was changed from 70.5 per cent alcohol and ammonia water, U. S. P., 1890, to 56 per cent alcohol and potassium hydroxide solution, U. S. P., VIII.—*Merck's Rep.*, 1908, v. 17, p. 4.

Sayre and Ziefle report that a sample of fluid extract of senega examined had deteriorated.—*Bull. Kansas Bd. Health*, v. 4, p. 295.

Cook, E. Fullerton, thinks sirup of senega is an example of the bad results obtained from mixing fluid extract and "simple" sirup directly.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 963.

Beringer, George M., outlines a formula for fluid glycerate of senega.—*Ibid.*, 1908, v. 56, p. 1002.

SENNA.

Farwell, A. O., asserts that the official senna comes from Egypt and India. The native species of Cassia, especially *C. marilandica* Lin., often have been offered in large lots as senna.—Merck's Rep., N. Y., 1908, v. 17, p. 35.

"W. in G." recommends restricting the use of senna to the Alexandria variety. He also recommends removing the resin.—Apoth. Ztg., Berl., 1908, v. 23, p. 359.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xxx) point out that the Ph. Helv. IV no longer recognizes Alexandria senna as being the equal of the Tinnevely variety despite the fact that the similarity of the two drugs was first established in Switzerland.

Gane and Webster point out that senna is rather remarkable on account of its high content of mineral matter. The leaves usually yield on incineration about 10 per cent of ash. Occasionally we find samples that run higher than this, and this is usually the case with picked leaves. Two samples, one of Alexandrian and one of Tinnevely leaves, specially picked and ground, yielded 15.59 and 14.5 per cent of ash, respectively.—Drug Topics, N. Y., 1908, v. 23, p. 245.

Woolsey, J. F., reports powdered senna leaves yielding 15.8 per cent ash. A sample of the whole leaf gave 9.8 per cent ash on ignition.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

Philipp Röder (Jahresbericht, Wien, 1908, p. 77) reports on 5 samples of senna, the ash content of which varied from 9.93 to 12.62 per cent.

Rusby, H. H., asserts that the so-called senna siftings are usually full of seeds, sand, pieces of wood, and other impurities. He found many shipments of senna siftings labeled broken senna.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 774, 792.

Kebler, L. F., asserts that normal senna leaves do not contain to exceed 10 per cent of sand and other inorganic material, but it is not uncommon to meet with siftings, sweepings, etc., of senna, containing from 20 to 35 per cent of such impurities. He points out that there is no provision in the Pharmacopœia setting an ash limit to a product of this character.—Proc. Ass. Off. Agric. Chem., 1908, 25th Ann. Conv., p. 94. (Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Beringer, George M., believes that the preliminary percolation of senna in alcohol in the making of fluid extract of senna is expensive and wasteful. He thinks that the griping tendency of senna can be more economically and effectively overcome by the addition of a small amount of a carminative, such as the oils of coriander or fennel.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 435. (See also *Proc. New Jersey Pharm. Ass.*, 1908, p. 93.)

Hemm, Francis, thinks the advisability of the changes in this fluid extract, used for at least 30 years, is questionable. The increased cost of the manufacture, unless the alcohol is recovered, is considerable.—*Proc. Missouri Pharm. Ass.*, 1908, p. 85.

Cook, E. Fullerton, asserts that the official sirup of senna is not a good preparation pharmaceutically.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 963.

Beringer, George M., outlines a formula for fluid glycerate of senna.—*Ibid.*, 1908, v. 56, p. 1003.

Magnus, R. (*Pflügers Arch.*, v. 122, pp. 251-260), reports observations on the influence of infusion of senna on digestion.—*Jahresb. ü. Tier-Chem.*, for 1908, Wiesb., 1909, v. 38, p. 1141.

SERPENTARIA.

The Therapeutic Committee of the British Medical Association suggests that serpentaria root be deleted from the *Ph. Brit.*, as it has no known serviceable action.—*Pharm. J., Lond.*, 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

SERA.

Mindes, J., presents a popular dissertation on the curative sera and their uses.—*Pharm. Post., Wien.*, 1908, v. 41, pp. 541-542, 549-551.

Blackburn, John H., discusses the principles of serum therapy in the postgraduate course for county medical societies.—*J. Am. M. Ass.*, 1908, v. 51, p. 1170.

A correspondent points out that the special novelty of the *Ph. Fr. V* is the introduction of serotherapeutic medicaments, toxines, and vaccines.—*Am. Druggist, N. Y.*, 1908, v. 53, p. 173.

Hort, E. C., discusses the therapeutic use of normal serum (animal) with reports of four illustrative cases.—*Lancet, Lond.*, 1908, v. 174, p. 487.

Jacoby, Martin, discusses the occurrence of nonspecific serum reactions, and points out that serum therapy has well-defined limitations that are perhaps even more restricted than is at present recognized.—*Therap. d. Gegenw., Berl.*, 1908, v. 49, pp. 529-531.

Richardson, Mark Wyman, presents a comprehensive review of the present status of serum and vaccine therapy.—*Am. J. M. Sc., Phila.*, 1908, v. 136, pp. 510–525.

A number of references to the use of sera and similar products as immunizing measures will be found in *Hyg. Rundschau.*, 1908, v. 18.

A review of the literature for 1908 relating to sera, immunity, and toxins, is presented.—*Jahresb. ü. Tier-Chem. for 1908, Wiesb.*, 1909, v. 38, pp. 914–1013.

Umber discusses the danger of reinjecting curative sera, reports a case of anaphylaxis, and cautions against the reinjection of serum in cases which have manifested any evidence of serum disease on former injection.—*Therap. d. Gegenw., Berl.*, 1908, v. 49, p. 480.

Otto, R., discusses the same question, and calls attention to the characteristic symptoms of serum disease.—*Ibid.*, 1908, v. 49, pp. 498, 499. (See also article by Klemperer, *ibid.*, pp. 431–432.)

Additional references on anaphylaxis will be found in the *J. Am. M. Ass.*, and the *Index Medicus*.

Weidanz, O., reports observations on the preservation of precipitated sera.—*Arb. a. d. k. Gsndhsamte, Berl.*, 1908, v. 29, pp. 394–403.

The report of the Bureau of Animal Industry presents a summary of the investigations made in connection with serums, vaccines, tuberculins, and other preparations sold for the detection, prevention, or treatment of diseases of animals.—*Ann. Rep. U. S. Dept. Agric.*, 1908, 1909, p. 205.

ANTIMENINGITIS SERUM.

Flexner and Jobling present an analysis of 400 cases of epidemic meningitis treated with antimeningitis serum. They conclude that the analyses of histories of cases of epidemic meningitis which have been presented in this article furnish convincing proof that the antimeningitis serum, when used by the subdural method of injection, in suitable doses and at proper intervals, is capable of reducing the period of illness; of preventing, in large measure, the chronic lesions and types of the infection; of bringing about complete restoration to health in all but a very small number of the recovered, thus lessening the serious, deforming, and permanent consequences of meningitis; and of greatly diminishing the fatalities due to this disease.—*J. Exper. M., N. Y.*, 1908, v. 10, pp. 690–733.

Chase and Hunt discuss the serotherapy of epidemic cerebrospinal meningitis, and report 12 cases treated with antiserum, with 9 recoveries.—*Arch. Int. Med.*, 1908, v. 1, pp. 294–313.

Fulton, Frank Taylor, discusses the serum treatment of epidemic cerebrospinal meningitis, with a report of 22 cases.—*Boston M. & S. J.*, 1908, v. 159, pp. 537–542, 572–575, 617–619.

Ladd, Louis William, reports beneficial results with a greatly lowered mortality from the use of antimeningitis serum in the treatment of epidemic meningitis.

Sladen, Frank J., reports on the use of the serum and concludes that it does no harm, and may do good, in meningitis.—*J. Am. M. Ass.*, 1908, v. 51, pp. 1315-1319.

The value of this serum is further attested by those who took part in the discussion of the two papers.—*Ibid.*, pp. 1319-1321.

A number of additional references on the use of antimeninigitis serum will be found in the *J. Am. M. Ass.* and the *Index Medicus*.

ANTIRABIC SERUM.

Semple, D., reports on the preparation and use of antirabic serum. Data tabulated.—*Lancet*, Lond., 1908, v. 174, pp. 1611-1618.

ANTIGONOCOCCIC SERUM.

Herbst, Robert H., states that the serum of Torrey has absolutely no effect on acute gonorrhœal infections, and its effect in subacute and chronic infections is doubtful, but it is of undoubted value in the treatment of chronic gonorrhœal arthritis.—*J. Am. M. Ass.*, 1908, v. 50, p. 1678.

Gayler, W. C., reports a case in which prompt relief followed the injection of Torrey's serum for gonorrhœal arthritis.—*Ibid.*, 1908, v. 51, p. 674.

Uhle and Mackinney report the use of the serum of Rogers and Torrey in the treatment of 23 cases of gonorrhœal infection, and state that the best results were obtained with patients suffering from arthritis.—*Ibid.*, 1908, v. 51, pp. 105-108.

CANCER.

Strauss, S., mentions briefly various sera used in the treatment of cancer, and states that he has seen improvement in a number of patients suffering with carcinoma whom he has treated with a serum obtained from lower animals, mainly the horse, suffering from malignant growths.—*J. Am. M. Ass.*, 1908, v. 51, pp. 1488-1490.

SYPHILIS.

Butler, William J., discusses the serum diagnosis of syphilis and finds that it is specific and confirms the findings of many other observers.—*J. Am. M. Ass.*, 1908, v. 51, pp. 824-829.

Marchildon, John W., compared the alcoholic and aqueous extracts containing the antigen in the diagnosis of syphilis. He states that

the alcoholic solutions may be used in the diagnosis, since they differ in no way from watery extracts.—*Ibid.*, 1908, v. 51, p. 2151.

An editorial discusses the serum test in hereditary syphilis, and states that it appears that Colle's and Profeta's laws may require revision in the light of the results afforded by the serum test.—*Ibid.*, 1908, v. 51, p. 1602.

Abstracts of a number of papers dealing with the serum diagnosis of syphilis are given.—*Ibid.*, 1908, v. 51, pp. 1894-1895.

A number of additional references to serotherapy and vaccino-therapy will be found in the *Index Medicus* and the *J. Am. M. Ass.*

SERUM ANTIDIPHThERICUM.

Eliot, Gustavus, places antidiphtheric serum among the best things in therapeutics. He asserts that this is a remedy that the older physicians can better appreciate because they have been unhappy witnesses of the inadequacy of other measures of treatment in very many cases of diphtheria.—*Boston. M. & S. J.*, 1908, v. 158, p. 252.

Richardson, Mark Wyman, asserts that antidiphtheric serum continues to be the first and foremost of the antisera and that the unbelievers become fewer every year. He calls attention to a chart shown by Park (reproduced with this article) in his Harvey lecture of 1905-6, in which he tabulates the mortality rate per 100,000 from diphtheria and croup in 19 large cities of Europe, England, and the United States from 1878 to 1905.—*Am. J. M. Sc., Phila.*, 1908, v. 136, pp. 515-516.

Pinchbeck, G., in discussing the B. P. C. monograph for antidiphtheric serum, expresses regret that no process is given for the preparation of diphtheria toxin. He outlines the method of production followed at present.—*Pharm. J., Lond.*, 1908, v. 26, p. 671.

Heinemann, P. G., presents a note on the concentration of diphtheria toxin and outlines a method which he believes will be applicable in the production of diphtheria antitoxin of high potency.—*J. Biol. Chem.*, 1908-9, v. 5, pp. 27-29.

Wodehouse, Robert E., reports on results obtained from the use of diphtheria antitoxin refined and concentrated by Gibson's method.—*N. York M. J.*, 1908, v. 87, p. 1242.

An unsigned article asserts that the longevity of antidiphtheric serum has been found to be greater than formerly believed, and that actual tests have demonstrated that a serum has kept for three years under the ordinary market conditions and had not deteriorated appreciably.—*New Idea*, 1908, v. 30, p. 81.

A number of references on the production and use of antidiphtheric serum will be found in *Hyg. Rundschau*, 1908, v. 18.

Lesné and Dreyfus report observations on the action of diphtheria toxin and its immunizing serum on warm-blooded animals.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 489-490.

Mellanby, John, reviews some of the literature and reports experiments to determine the relation of diphtheria antitoxin to the normal proteins of serum and the relation between the antitoxic potency of a serum and the amount of protein contained in it.—*Proc. Roy. Soc., Lond.*, 1908, v. 80, Series B., pp. 399-413.

Krönig, G., discusses the natural limitations of the activity of curative sera in the treatment of diphtheria, involving the causes and the need for supplementing with local treatment.—*Therap. d. Gegenw.*, Berl., 1908, v. 49, pp. 289-291.

The Berlin correspondent calls attention to the decreased death rate in diphtheria, which is wholly attributed to antitoxin. He states that there is but one pediatricist in Austria who does not accept the theory of the action of antitoxin.—*J. Am. M. Ass.*, 1908, v. 51, p. 236.

The London correspondent quotes the statistics of the annual report of the metropolitan asylums board for the year 1907, which afford a comparison of the mortality from diphtheria before and after the introduction of antitoxin.—*Ibid.*, 1908, v. 51, p. 928.

Middleton, G. S., reports successful results in a case of diphtheritic paralysis treated by injection of the antidiphtheric serum of Roux.—*Lancet*, Lond., 1908, v. 175, p. 157.

Rolleston, J. D. (*Ibid.*, p. 262), suggests that the good results may have been due to a psycho-therapeutic reaction and that it would be interesting to determine whether equally good results would not be obtained by the injection of some comparatively inert fluid, such as sterilized water, thus avoiding the possibility of supersensitization phenomena.

Grau, Ramón, discusses the use of serum antidiphthericum in the treatment of three cases of asthma.—*Rev. Med. Cir., Habana*, 1908, v. 13, pp. 342-345.

Thorne, R. Thorne, reports his own hypersensitiveness to antidiphtheric serum, in which there was progressive increase of reaction to serum injected at long intervals.—*Brit. M. J.*, Lond., 1908, v. 1, p. 147.

Blain, Alexander W., reports 7 cases of urticaria following the second administration of diphtheria antitoxin.—*Med. Rec.*, N. Y., 1908, v. 73, pp. 940-942.

Wyman, Walter, calls attention to Bulletins 29 and 36 of the Hygienic Laboratory for details of the work on anaphylaxis, and states that the deaths of the three persons following the injection of antitoxin were probably due to increased susceptibility to horse serum, the antitoxin having no poisonous action. Caution is enjoined in the

case of patients suffering with asthma.—*J. Am. M. Ass.*, 1908, v. 50, p. 468.

A number of additional references will be found in the *Index Medicus* and the *J. Am. M. Ass.*

SERUM ANTITETANICUM.

Rosenau and Anderson describe the American unit of value and the method of standardizing tetanus antitoxin, also review the methods employed in Germany, France, and Italy, and present tables for diluting the toxin and antitoxin.—*Bull. Hyg. Lab., U. S. P. H. & M.-H. S.*, 1908, No. 43, pp. 55.

Lesné and Dreyfus report observations on the action of tetanus toxin and its immunizing serum on warm-blooded animals.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 489-490.

Brunner, Georges, reviews some of the work that has been done on the relation of toxins to antitoxins and reports experiments to determine the comparative affinity of the living cells for tetanus toxin and antitoxin.—*Arch. internat. de pharmacod. et de therap.*, 1908, v. 18, pp. 14-28.

Frouin, Albert, presents conclusions on the extraction of antitoxin from coagulated antitetanic serum.—*Comp. rend. Soc. de biol., Par.*, 1908, v. 65, pp. 592-593. (See *Comp. rend. Acad. d. sc., Par.*, v. 147, p. 649.)

Vaillard is quoted as calling the attention of surgeons to the marvelous results to be obtained from serotherapy, especially with reference to antitetanic serum.—*Répert. d. pharm., Par.*, 1908, v. 20, pp. 329-330.

A number of observations on tetanus antitoxin, its occurrence, behavior, and use, recorded.—*Comp. rend. Soc. de biol., Par.*, 1908, v. 64.

Mon, R. García, reviews the results obtained by different investigators in the treatment of tetanus by antitetanic serum, reports 10 cases of his own experience with 8 recoveries, and asserts that the probability of recovery is in direct proportion to promptness of action and quantity of serum injected during the first two days of the disease.—*Rev. Med. Cir., Habana*, 1908, v. 13, pp. 544-549.

An unsigned abstract calls attention to a contribution by Krohne (*Ztschr. f. Med. Beamte*) on the use of serum in tetanus and presents some statistics.—*Pharm. Ztg., Berl.*, 1908, v. 53, p. 131.

Additional references on the use of tetanus antitoxin will be found in the *Index Medicus* and the *J. Am. M. Ass.*

SINAPIS.

Schneider, Albert, asserts that English mustard has been grown on an enormous scale in the Lompoc Valley in California. "Mustards" of all kinds are very profuse throughout the State, growing very

rank and constituting a very troublesome plant to the farmer.—Pacific Pharmacist, 1908-9, v. 2, p. 469.

Koch, Felix, gives an interesting account of cultivation of mustard seed in the Lompoc Valley, California, whence, he avers, comes practically all of the mustard in medicinal use the country over to-day.—Merck's Rep., N. Y., 1908, v. 17, pp. 92-93.

Spaeth, Eduard, discusses the chemical and microscopical examination of mustard, the characteristics and composition of the true drug, and some of its adulterants.—Pharm. Zentralh., 1908, v. 49, pp. 698-706.

Rusby, H. H., found one lot of mustard to be charlock seed.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 771.

Kebler, L. F., reports on a sample of mustard which contained starch and turmeric.—*Ibid.*, 1908, v. 56, p. 776.

Fitz-Randolph, R. B., reports that of the 145 samples of mustard examined 9 were found to be adulterated.—Rep. New Jersey Bd. Health, 1908, p. 221.

Merl, Th., discusses the determination of added color in ground mustard; also a misleading color reaction.—Ztschr. f. Unters. Nahr. u. Genussm., 1908, v. 15, pp. 526-529.

Fischer, Richard, reports several samples sold for ground mustard which consisted of ground charlock (Dakota mustard) which has little spice value and, not being recognized by the Wisconsin standards as mustard, must be considered as an adulterant.—Rep. Dairy & Food Com., Wisconsin, 1909, p. 116.

Potter, Hubert F., reports on 3 samples of mustard examined: 1 up to standard, 2 contained corn starch, wheat, rice product, and turmeric.—Rep. Dairy Com., Connecticut, 1908, p. 92.

SODII ACETAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 34) report that the 1 sample of sodium acetate examined by them contained 99.6 per cent of pure salt.

Green, W. F. (J. Physic. Chem., 12, 655-660) reports on experiments to determine the melting point of hydrated sodium acetate and solubility curves.—Chem. Abstr., Am. Chem. Soc., 1909, v. 3, p. 740.

SODII ARSENAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 34) report that the 1 sample of sodium arsenate examined by them contained a considerable amount of chloride.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

Blome, Walter H., reports on 2 samples of sodium arsenate. One left a slight residue insoluble in water.—Proc. Michigan Pharm. Ass., 1908, p. 95.

Pinchbeck, G., thinks that mono-potassium arsenate would have a number of advantages over sodium arsenate as an official medication. Some of these advantages are enumerated.—Pharm. J., Lond., v. 26, p. 671.

Schamelhout, A., points out that the Ph. Belg. III has included the international standard salt with 7 molecules of water, in place of the formerly official dried sodium arsenate.—Bull. Soc. roy. de pharm., Brux., 1908, v. 52, p. 14.

SODII BENZOAS.

An editorial, in commenting on the need for using official titles, deplores the fact that the department of the United States Government which has charge of the enforcement of the Food and Drugs Act insists on using the term benzoate of soda in place of the official title, sodium benzoate.—Meyer Bros. Drug., St. Louis, 1908, v. 29, p. 300.

Hills, Walter, in addition to the tests already noted suggests a further test for lead.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 29.

Merck, E., points out that sodium benzoate reacts slightly alkaline with litmus paper and that the Ph. Helv. IV requirement that it be neutral or slightly acid is misleading.—Schweiz. Wchnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, p. 342.

Kebler, L. F., reports on a sample of sodium benzoate which contained an undue amount of chloride.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Smith, Kline & French Co. (Analytical Report, 1908, p. 34) report that all of the 10 samples of sodium benzoate which they examined were of the U. S. P. quality, except for strength, none being 99 per cent unless freed from moisture just before assay was made; the strength of the various samples ranged from 93.65 to 98.83 per cent.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

Philipp Röder (Jahresbericht, Wien, 1908, p. 104) reports that of 3 samples of sodium benzoate examined, 2 contained appreciable traces of chlorine.

Collard, E., jr., reports finding a sample of sodium benzoate contaminated with calcium sulphate and calcium chloride.—Bull. pharm. du Sud-est., Montpel., 1908, v. 13, pp. 82–83.

Wiley, H. W., presents the general results of the investigation showing the effects of sodium benzoate and benzoic acid upon digestion and health. He concludes that the administration of these substances is highly objectionable and produces a very serious disturbance of the metabolic functions, attended with injury to digestion and health.—Circ. No. 39, Bur. Chem., U. S. Dept. Agric., 1908, pp. 15.

Report No. 88, issued by the Department of Agriculture, records "Experiments on the influence of sodium benzoate on the nutrition and health of a man, by Russell H. Chittenden, John H. Long, and Christian A. Herter." 784 pages.—Ann. Rep. U. S. Dept. Agric., 1908, p. 616.

An editorial comments on the preliminary pamphlet on the physiological effects of sodium benzoate emanating from the Bureau of Chemistry of the United States Department of Agriculture.—Am. Druggist, N. Y., 1908, v. 52, p. 2. (See also p. 33.)

An editorial comments on the reports of the referee board appointed to determine whether sodium benzoate used in food as a preservative is harmful.—Pacific Pharmacist, 1908-9, v. 2, p. 383.

Food Inspection Decision 89 (issued March 5, 1908) permits the use of minute quantities of sodium benzoate and sulphur dioxide pending determination by the referee board of the wholesomeness or unwholesomeness of these substances.

Food Inspection Decision No. 101 (issued Dec. 26, 1908) reaffirms the position outlined in the above decision.

Roche (Centre méd. et pharm., March, 1908) discusses the difficulties encountered in combining sodium benzoate and quinine in prescriptions and the methods of overcoming them.—Répert. de pharm., Par., 1908, v. 20, p. 199.

SODII BICARBONAS.

Hill, Charles Alexander, suggests as a standard for sodium bicarbonate, lead 5 parts per million, arsenic 2 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797. (See also Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 29.)

Blome, Walter H., reports on 9 samples of sodium bicarbonate. One had a slight excess of carbonate.—Proc. Michigan Pharm. Ass., 1908, p. 95.

Heuissler, P. I., reports that of the 8 samples examined, 2 showed carbonate slightly in excess.—Proc. Maryland Pharm. Ass., 1908, p. 33-34.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 35) report that the highest arsenical contamination in the 46 samples they examined during the year was 5 parts per million, which occurred in only 2 lots. They suggest that a limit of 4 parts per million would probably be stringent enough for commercial purposes. Lead up to 10 parts per million was detected occasionally. A few samples exceeded the U. S. P. limit for carbonate. Three foreign specimens contained up to 0.3 per cent chloride as NaCl.

Talbot, Eugene S., discusses the cause of dental erosion and states that sodium bicarbonate should be used until the acidity of the urine

is normal. Sodium phosphate may be used.—J. Am. M. Ass., 1908, v. 50, p. 200.

Ames, W. V.—B. (Dental Review), calls attention to the usefulness of sodium bicarbonate for loosening up mucoid deposits about the teeth.—Dental Cosmos, 1908, v. 50, p. 433.

Fauvel, Pierre, finds that in a healthy man, under nonpurin diet and the excretion of uric acid of endogenous origin being reduced to a minimum, sodium bicarbonate, even in doses of 6 gm. per day, has no marked effect on the excretion of xanthines (xantho-uriques) and of uric acid. This action of the bicarbonate therefore differs wholly from that of the salicylate of soda under the same conditions.—Compt. rend. Soc. de biol., Par., 1908, v. 64, p. 557.

He further reports that sodium bicarbonate, in doses of 5 gm. per day in a healthy subject, has no effect on the excretion of uric acid and xanthines, whether the diet contain purins or not.—*Ibid.*, 1908, v. 64, p. 825.

Linossier and Lemoine (Bull. Acad. de méd., Par., v. 72, No. 15) conclude that sodium bicarbonate always stimulates gastric secretion. It should be given some time after meals to neutralize the excess of acidity.—J. Am. M. Ass., 1908, v. 50, p. 1759.

SODII BISULPHIS.

Coblentz, Virgil, reports 3 samples of sodium acid sulphite below U. S. P. standard.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 761.

SODII BORAS.

Hill, Charles Alexander, suggests as a standard for borax, lead 5 parts per million, arsenic 5 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797. (See also Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 14.)

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 18 samples of sodium borate, 6 being below standard.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1905, 8 samples of sodium borate examined, 6 genuine and 2 adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

Fitz-Randolph, R. B., reports that of the 76 samples of borax examined, 2 were found to contain bicarbonate of soda.—Rep. New Jersey Bd. Health, 1908, p. 226.

Lythgoe, Hermann C., reports that of 14 samples examined 2 were adulterated. One of these samples was found to be adulterated with sodium bicarbonate, while the others contained 90 per cent sodium bicarbonate. —Rep. Massachusetts Bd. Health, 1908, pp. 611, 612.

Barnard, H. E., reports on one sample of borax examined, which was found to be potassium chlorate.—Rep. Indiana Bd. Health, 1908, p. 340.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 8) point out that while a fair proportion of borax on the market contains less than 5 parts of lead per million, the salt sometimes contains as much as 15 per million. Of 50 samples tested for arsenic, only 1 was found to show more than 4 parts per million.

Philipp Röder (Jahresbericht, Wien, 1908, p. 104) reports that of 5 samples of sodium borate examined, 2 contained an excess of chlorine and of iron.

SODII BROMIDUM.

Hills, Walter, in addition to the tests already given in the Ph. Brit., suggests a further test for lead.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 29.

Smith, Kline & French Co. (Analytical Report, 1908, p. 34) report examining 2 samples of sodium bromide: 1 was of U. S. P. quality, the other was very low in strength, containing only 86 per cent of pure salt and was of inferior appearance.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 78.

Hale and Fishman conclude, from their experiments on the excretion of the bromides by the kidney, that (1) after a single dose the excretion of bromides is very much delayed, but probably to a less extent than after a number of successive doses. (2) In spite of their close chemical relation the bromides, after single doses, are excreted very much more slowly than the iodides. (3) The amount of diuresis does not seem to hold any absolute relation to the amount of bromide excreted. (4) The excretion of calcium bromide proceeds at about the same rate as sodium bromide.—Am. J. Physiol., 1908, v. 22, pp. 32–42.

SODII CARBONAS MONOHYDRATUS.

Noyes, William H., in an inaugural address, reviews the history of the soda industry.—Abstract in Sc. Am. Suppl., 1908, v. 65, pp. 86–87.

Rohland, P., discusses the theory of the Solvay soap process from the standpoint of physico-chemical laws.—Oesterr. Chem. Ztg., Wien, 1908, v. 53, p. 64.

Crispo, D., discusses a novel reaction for the production of sodium carbonate. The product under discussion occurred as an efflorescence on a stone building and had evidently been formed by the double decomposition of calcium carbonate from the limestone and the more or less soluble sodium silicates in the cement.—Bull. Soc. chim. Belg., 1908, v. 22, pp. 292–295.

Hill, Charles Alexander, suggests as a standard for sodium carbonate, lead 10 parts per million, arsenic 2 parts per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797.

Hills, Walter, in addition to the tests already given in *Ph. Brit.*, suggests a further test for lead.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 29.

Schamelhout, A., points out that the *Ph. Belg.* III includes sodium carbonate with 10 molecules of water of crystallization.—*Bull. Soc. roy. de pharm.*, Brux., 1908, v. 52, p. 17.

Kebler, L. F., reports on 2 samples of sodium carbonate: one sample was 85.89 per cent pure, while the other contained traces of arsenic.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 776.

Smith, Kline & French Co. (Analytical Report, 1908, p. 34) report examining 4 samples of monohydrated sodium carbonate: 2 were of U. S. P. quality; 2 contained an excess of iron and chlorides.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 78.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 36) report that the 30 lots of sodium carbonate examined during the year showed a high degree of purity, 2 parts of arsenic and 10 parts of lead per million being the highest contamination detected.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 105) reports that of 5 samples of sodium carbonate examined, 2 contained chlorides.

SODII CHLORAS.

Gartenmeister, R., reviews the article by Carlson and Gelhaar and asserts that by far the greater amount of the chlorate now available is made electrolytically and is not pure.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 677.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 36) point out that sodium chlorate usually contains heavy traces of potassium and chloride. Arsenic up to 4 parts and lead up to 20 parts per million were found during the year.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 105) reports that one sample of sodium chlorate examined contained appreciable quantities of sulphuric acid.

Abelous and Bardier report a study on the action of sodium chlorate on the circulation. They conclude that this substance has but a feeble toxicity.—*J. de physiol. et de pathol.*, 1908, v. 10, pp. 430-441.

SODII CHLORIDUM.

Taylor, Frank O., discusses the production of chemically pure sodium chloride and points out that it is practically impossible to obtain sodium chloride on a manufacturing scale that is free from insoluble matter, though the amount of this insoluble matter may be

reduced, under the best circumstances, to a negligible quantity.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1631-1634.

An unsigned article from *Oil, Paint and Drug Review* points out that for convenience salt is classified according to the grades by which it is sold by the producer or the purpose for which the salt is to be used. The various trade names are enumerated.—*Drug. Topics*, N. Y., 1908, v. 23, p. 278.

Ito, S., outlines a method for determining the quality of table salt, which, in Japan, is classified according to the per cent content of sodium chloride. The method depends on the relative specific gravity of 10 per cent solutions of the several kinds of table salt.—*J. Pharm. Soc. Japan*, 1908, p. 121.

Hill, Charles Alexander, suggests as a standard for sodium chloride, lead 10 parts per million, arsenic 1 part per million.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 797. (See also *Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), Lond., 1908, p. 29.)

Blome, Walter H., reports on 3 samples of sodium chloride. One contained calcium sulphate and magnesium chloride.—*Proc. Michigan Pharm. Ass.*, 1908, p. 95.

Kebler, L. F., reports on 2 samples of sodium chloride which tested 93.66 and 94.19 per cent pure.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 776.

Mori, S., presents observations on the influence of sodium chloride on saccharification and fermentation by koji. He concludes that saccharification is not materially influenced by the presence of sodium chloride while fermentation and the formation of acid by the micro-organisms present is delayed by the presence of 5 per cent and prevented by 25 per cent of sodium chloride.—*J. Pharm. Soc. Japan*, 1908, p. 1-10.

Castaigne and Rathery report an experimental study to determine the action of sodium chloride on renal epithelium.—*J. de physiol. et de pathol.*, 1908, v. 10, pp. 891-899.

Fyfe, John William, in discussing the use of sodium chloride, asserts that it promotes the activity of tissue change and increases the excretion of urea. It acts upon the blood, the lymphatic system, the mucous lining of the digestive tract, and the spleen.—*Eclectic Rev.*, 1908, v. 11, pp. 258-261. (See also *J. Therap. and Dietet.*, Boston, 1908-9, v. 3, pp. 42-44.)

A number of references on the action and uses of sodium chloride will be found in the *Index Medicus*.

SODII CITRAS.

Hekma, E., presents a communication on the possible application of sodium citrate in the study of phagocytosis. He points out that the phagocytic properties of the leucocytes in horse's blood are mate-

rially inhibited by an admixture of physiologic saline solution containing not exceeding a total of 0.2 per cent of sodium citrate.—*Biochem. Ztschr., Berl.*, v. 11, pp. 177–185.

SODII HYDROXIDUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report examining 5 samples of sodium hydroxide; 1 contained an excess of chlorides, 2 an excess of iron and silica.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 79.

Scoville, W. L., found commercial grades varying from 87 to 98.7 per cent NaOH. All contained a small amount of chlorides.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 774.

Blome, Walter H., reports on 5 samples of sodium hydroxide. Three of these tested 96.5 per cent by titration. The high percentage is due to the presence of considerable amounts of KOH.—*Proc. Michigan Pharm. Ass.*, 1908, p. 95.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 36) point out that certain brands of sodium hydrate are highly arsenical, they having detected as much as 25 parts per million in one sample, in addition to 1 per cent of chloride. They think that 3 parts would be a safe limit. Lead usually occurred in very minute quantities.

SODII HYPOPHOSPHIS.

Hills, Walter, in addition to the tests already given in *Ph. Brit.*, suggests a further test for lead.—*Rep. Com. Ref. Genl. Med. Council* (to Oct. 29, 1908), *Lond.*, 1908, p. 29.

Harvey, T. F., reports that sodium hypophosphite, hypophosphorous acid, and hypophosphites are very conveniently determined iodometrically in acid solution, using excess of iodine (Rupp and Finck). Convenient quantities are 20 cc. N/10 hypophosphite solution + 10 cc. of 1.1 hydrochloric acid + 30 cc. N/10 iodine solution. This allowed to stand several hours, a blank experiment being made, and the excess of iodine titrated with thiosulphate in the usual manner. The final product in acid solution is phosphorous acid. 1 cc. N/10 iodine = 0.004403 gm. sodium hypophosphite.—*Chem. & Drug.*, *Lond.*, 1908, v. 72, p. 905.

Dohme and Engelhardt report sodium hypophosphite showing too strong an alkalinity and containing over 2 per cent of sodium carbonate.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 818.

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report that all of the 4 samples of sodium hypophosphite examined by them were of satisfactory quality.

SODII IODIDUM.

Baxter and Brink report experiments to determine the specific gravity of sodium iodide and point out that the density of this salt at 25° C. referred to water at 4° was found to be 3.665.—J. Am. Chem. Soc., 1908, v. 30, pp. 46–53.

Hills, Walter, in addition to the tests already given in Ph. Brit., suggests a further test for lead.—Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 30.

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report that the 1 sample of sodium iodide examined by them was of U. S. P. quality, except for an excess of alkali.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 36), report the examination of 1 sample of sodium iodide containing 83 per cent of NaI.

Philipp Röder (Jahresbericht, Wien, 1908, p. 106) reports that out of 3 samples of sodium iodide examined, 1 was rejected because of the presence of iodic acid.

Feigl, Johann, reports experiments to determine the action of solutions of sodium iodide on gastric secretion.—Biochem. Ztschr., Berl., 1907–8, v. 8, p. 480.

Schwarzmann, J. (Berl. klin. Wchnschr., v. 45, No. 25), states that the agglutinating properties of the serum of rabbits and dogs are increased by sodium iodide.—J. Am. M. Ass., 1908, v. 51, p. 357.

Reijst-Scheffer, A., reports experiments to determine the elimination of iodides in the milk of mammals after the ingestion of sodium iodide.—Pharm. Weekblad, 1908, v. 45, pp. 1359–1362.

SODII NITRAS.

An abstract asserts that deposits of sodium nitrate have been found only in Chile. In the district of Tampa, near the port of Iquique, are extensive beds of nitrate, from 10 to 40 inches thick, covered with a layer of sand from 20 to 80 inches in depth. The crude nitrate, or *caliche*, contains from 48 to 75 per cent of sodium chloride. This composition indicates that the deposits are of marine origin. From 1830 to 1907 nearly 40,000,000 tons of nitrate, worth more than \$1,000,000,000, have been taken from these beds.—Sc. Am. Suppl., 1908, v. 66, p. 227.

Bertrand, A. (Engrais, 23, 1908, No. 28, pp. 661, 662; Rev. Gén. Agron., n. ser., 3, 1908, Nos. 6–7, pp. 248–252). Valuation and extent of the nitrate of soda deposits of Chile. This is a summary of a report of the inspector appointed by the Chilean Government to investigate the matter. This report combats the idea that these deposits are rapidly approaching exhaustion.—Exp. Sta. Rec., 1908–9, v. 20, p. 729.

Pinchbeck, G., asserts that sodium chlorate is an occasional impurity in sodium nitrate, and a test for chlorate should be included.—*Pharm. J., Lond.*, 1908, v. 26, p. 672.

Schreiner and Reed discuss the power of sodium nitrate and calcium carbonate to decrease toxicity in conjunction with plants growing in solution cultures.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 85–97.

SODII NITRIS.

Morgan, Gilbert T., discusses the manufacture of sodium nitrate and its production from sodium nitrate, from nitrous fumes, and from calcium nitrate.—*J. Soc. Chem. Ind., Lond.*, 1908, v. 27, pp. 483–485.

Pelet and Corni discuss the preparation of the alkali nitrites, the reactions involved, and the care necessary for securing favorable results.—*Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich*, 1908, v. 46, pp. 21–22.

Moerk, Frank X., suggests that the titration for sodium nitrite with potassium permanganate be changed from a direct to a residual titration. He recommends the addition of an excess of potassium permanganate solution, to oxidize the sodium nitrite to nitrate, the addition of oxalic acid solution to reduce the excess of potassium permanganate, and, finally, titration of the excess of oxalic acid with potassium permanganate.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 900.

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report that the 4 samples of sodium nitrite examined by them were of satisfactory quality, except one, which contained an excess of iron.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 79.

Frölich and Loewie report observations on the effect of sodium nitrite and of nitrites generally on the nervous system.—*Arch. f. exper. Path. u. Pharmacol., Leipz.*, 1908, v. 59, pp. 35–46.

Campani, A. (*Gazz. d. osp., Milano*, v. 39, No. 29), explains the mode of action of sodium and amyl nitrites in hæmorrhage, amyl nitrite acting almost instantly, but the action of sodium nitrite lasting for some days.—*J. Am. M. Ass.*, 1908, v. 50, p. 1389.

Cook, Henry Wireman, discusses the choice of a vasodilator and the indications for vasodilation. He offers arguments in favor of the use of sodium nitrite instead of nitroglycerin and amyl nitrite, and states that its action is the most enduring, stable, and dependable, with the fewest unpleasant symptoms.—*Ibid.*, 1908, v. 50, pp. 676–679.

SODII PHENOLSULPHONAS.

Hübener, Gerhard, reports a study of phenolsulphonic acid and its salts with experiments to determine the composition by means of soluble barium salts.—*Chem. Ztg., Cöthen*, 1908, v. 32, pp. 485–486.

SODII PHOSPHAS.

Hill, Charles Alexander, suggests as a standard for sodium phosphate, lead 5 parts per million, arsenic 5 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797. (See also Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 30.)

Pinchbeck, G., owing to the instability of this salt in regard to water of crystallization, suggests the adoption of volumetric process of valuation based on the titration of the substance with normal sulphuric acid in the presence of methyl orange.—Pharm. J., Lond., 1908, v. 26, p. 672.

Seoville, W. L., reports that 1 sample of sodium phosphate in 5 gave a slight trace of arsenic.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 774.

Patch, E. L., reports on 1-pound tins of sodium phosphate containing from 13 to 14 ounces.—*Ibid.*, v. 56, p. 774.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 36) state that less than 4 parts of arsenic per million was found in 20 samples of sodium phosphate examined by them. A sample of the commercial substance was very highly contaminated.

Gerber, C., (Soc. Biol., 1908, Bd. 64, No. 3) discusses the action of potassium phosphate and sodium phosphate on the coagulation of milk under pressure.—Biochem. Centralbl., Leipz., 1908, v. 7, p. 853.

Fyfe, John William, asserts that sodium phosphate energetically influences the bones, glands, lungs, and abdominal organs. Its field of therapeutic action is therefore somewhat extensive.—Eclectic Rev., 1908, v. 11, pp. 284-286.

SODII SALICYLAS.

Pancoast and Pearson discuss natural salicylates and call attention to several physical properties which they believe to be characteristic of the compound made from natural oil.—Am. J. Pharm., Phila., 1908, v. 80, pp. 407-410.

Gane and Webster assert that sodium salicylate has almost invariably a faint pinkish tinge, and the solution made from such salt will be practically colorless.—Drug. Topics, N. Y., 1908, v. 23, p. 245.

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report that the 1 sample of sodium salicylate which they examined was of U. S. P. quality except in physical appearance and heavy metals.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 79.

Kebler, L. F., reports on a sample of sodium salicylate which gave a very dirty solution.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 776.

Coblentz, Virgil, reports 2 samples of sodium salicylate below U. S. P. standard.—*Ibid.*, 1908, v. 56, p. 761.

Barnard, H. E., reports on 1 sample having 78.4 sodium salicylate; below standard.—Rep. Indiana Bd. Health, 1908, p. 340.

Blome, Walter H., reports on 5 samples of sodium salicylate; 1 contained a trace of iron.—*Proc. Michigan Pharm. Ass.*, 1908, p. 95.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 37) point out that sodium salicylate is usually all that can be desired.

Engelhardt and Jones report that of 14 samples of synthetic sodium salicylate examined 4 contained phenol; and of 5 samples of natural sodium salicylate, 2 contained phenol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 868.

Eliot, Gustavus, asserts that the second place in therapeutics is undoubtedly occupied by sodium salicylate as a specific in the treatment of rheumatism.—*Boston M. & S. J.*, 1908, v. 158, p. 252.

Mandel, Felix, discusses the action and the elimination of sodium salicylate when administered intravenously. *Therap. d. Gegenw.*, Berl., 1908, v. 49, p. 297.

Faringer, H. P., in discussing the treatment of migraine recommends the use of sodium salicylate in physiological doses of from 10 to 15 grains three times a day.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 525.

Massol and Minet report observations on the absorption of sodium salicylate from the rectum and its appearance in the urine.—*Compt. rend. Soc. de biol.*, Par., 1908, v. 64, pp. 447-449.

Sebta, S., discusses the action of sodium salicylate and reports observations on the absorption of O_2 and the liberation of CO_2 by tissues under the influence of sodium salicylate.—*Arch. internat. de pharmacod. et de therap.*, 1908, v. 18, pp. 224-227.

Stockman, Ralph, exhibited before the Royal Society of Medicine a large number of charts illustrating the prompt fall of temperature which resulted when a rheumatic patient came under the influence of sodium salicylate. Also charts illustrating the action of drugs closely allied in pharmacological composition, salicin, methyl salicylate, etc.—*Brit. M. J.*, 1908, v. 2, p. 1811.

Additional references on the use of sodium salicylate will be found in the *Index Medicus* and the *J. Am. M. Ass.*

SODII SULPHAS.

Basset, L. P., in a French patent application, outlines a method for the preparation of sodium sulphate by interaction of sodium silicate and calcium sulphate.—*Chem. Repert.*, Cöthen, 1908, v. 32, p. 389.

Hartley, Jones, and Hutchinson point out that the spontaneous crystallization of sodium sulphate with 10 molecules of water is of rare occurrence as compared with that of sodium sulphate having 7 molecules of water.—*J. Chem. Soc., Lond.*, 1908, v. 93, pp. 825-833.

Hill, Charles Alexander, suggests as a standard for sodium sulphate, lead 5 parts per million, arsenic 2 parts per million.—*Chem.*

& Drug., Lond., 1908, v. 72, p. 797. (See also Rep. Com. Ref. Genl. Med. Council (to Oct. 29, 1908), Lond., 1908, p. 30.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report examining 19 samples of sodium sulphate: 6 contained ammonium salts; one contained traces of arsenic, and 2 others iron.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 79.

Blome, Walter H., reports on 11 samples of Glauber's salt. Two contained potassium chloride.—Proc. Michigan Pharm. Ass., 1908, p. 92.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 37) report that of over 100 samples of sodium sulphate examined by them only 4 showed as much as 4 parts of arsenic per million; in no case was lead present in greater amounts than 20 parts per million. The cheaper kinds often contained up to 0.5 per cent of chloride. One sample proved to be sodium thiosulphate, and another contained 2 per cent of magnesium sulphate. They have occasionally noticed slight traces of iron in the "feather crystal" variety.

Philipp Röder (Jahresbericht, Wien, 1908, p. 106) reports that of 5 samples of sodium sulphate examined, one contained appreciable quantities of iron.

Woy, Rudolf, discusses the commercial analysis of sodium sulphate and outlines a modification of the method given by Lange.—Ztschr. f. öffentl. Chem., 1908, v. 15, pp. 30-31. (See also pp. 279-280.)

Pharm. J. (Lond., 1908, v. 80, p. 518), quotes from the "Bulletin Commercial" the formula of an excipient for drugs having an oxidizing action or which are otherwise incompatible with organic substances: 2 gm. kaolin, 1 gm. anhydrous sodium sulphate, each thoroughly pulverized and calcined, and 1 mil of water. Carles, who devised the formula, says he has found pills made eight years previously to be as easily soluble and chemically as active as when they were made.

Marshall, C. R., explains that this is due to the fact that 33° C. is a critical temperature for sodium sulphate. If the pills be made at or a little above this temperature the mass will remain plastic as long as may be necessary for manipulation, and the pills, if kept at ordinary temperature, should keep indefinitely.—*Ibid.*, p. 586.

Gerber, C. (Soc. biol., 1908, Bd. 64, p. 374-378), discusses the action of the neutral sulphates and the acid sulphates of potassium and sodium on the coagulation of milk.—Biochem. Centralbl., Leipz., 1908, v. 7, p. 725.

Scaffidi, V., reports observations on the antagonistic action of barium chloride and sodium sulphate on the activity of the heart of the frog.—Biochem. Ztschr., Berl., 1908, v. 9, pp. 489-497.

Auer, John, discusses the purgative inefficiency of the saline cathartics when injected subcutaneously or intravenously, reviews some of the reported work done by MacCallum and by Bancroft, and quotes an article by Frankl, from Hans Meyer's laboratory, in which the assertion is made that intravenous injections of sodium sulphate produce no purgation, but rather a moderate constipation.—*J. Biol. Chem.*, N. Y., 1908, v. 4, pp. 197–212.

An abstract asserts that natrium sulphuricum is useful in chronic diarrhœas. The stools come on in the morning after moving about; are bilious and contain much phlegm.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 876.

Fyfe, John William, asserts that sodium sulphate (also known as Glauber's salt) in small doses of triturations has been extensively employed in many wrongs of life with satisfactory results. Its action in general is that of an energetic medicament in all gastric bilious conditions, accumulation of water in the areolar tissues, yellow watery secretions of the skin, or yellow scales forming an eruption of vesicles.—*Eclectic Rev.*, 1908, v. 11, pp. 319–322.

SODII SULPHIS.

Kebler, L. F., reports on 20 samples of sodium sulphite, which ranged in purity from 72.16 to 92.06 per cent. He has been unable to secure samples containing 94 per cent of pure sodium sulphite, the lower standard of the present Pharmacopœia.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 776.

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report that of the 2 samples of sodium sulphite examined, 1 was of U. S. P. quality, the other too strongly alkaline.

Army, H. V., reports on 6 samples of sodium sulphite examined. He found 1 sample up to pharmacopœial requirements. Three samples were evidently old sodium bisulphite, since 0.5 gm. absorbed 63.1 c. c., 71.2 c. c., and 69.2 c. c. N/10 Iodine V. S., respectively; 0.5 gm. of another sample took up 34.3 c. c. N/10 Iodine V. S.; while 0.5 gm. of a very ancient specimen absorbed only 6.4 c. c. N/10 Iodine V. S.—*Proc. Ohio Pharm. Ass.*, 1908, p. 89. (See also *Midland Druggist*, 1908, v. 10, p. 15.)

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 38) report that they have examined 21 samples of sodium sulphite which had a purity of from 92 to 98 per cent.

Weston and Jeffreys outline a method for the detection of sodium sulphite in the presence of sodium sulphate and sodium thiosulphate. The principle of the test depends on the solubility in a solution of sodium thiosulphate of lead sulphate and lead thiosulphate, and the insolubility of the same in lead sulphite.—*Chem. News*, Lond., 1908, v. 47, p. 85.

The *Pharmaceutical Journal* (Lond., 1908, v. 80, p. 471) quotes, from the *Photographic News* of March 6, a test for the purity of sodium sulphite, which is frequently diluted with its twin salt, sodium sulphate.

Longfield, F. J., in discussing the treatment of septicæmia, points out that sodium sulphite is indicated by broad, pallid, dirty, pasty, moisty white-coated tongue, and bad breath.—*Tr. Nat. Eelect. M. Ass.*, 1908, v. 36, p. 292.

SODII THIOSULPHAS.

Gutmann, A., outlines a method for the titrimetric estimation of thiosulphates by means of potassium cyanide.—*Ztschr. f. anal. Chem.*, Wiesb., 1908, v. 47, pp. 294–295.

Defrance, P., reviews several of the methods that have been proposed for determining the quality of sodium hyposulphite, and recommends the method proposed by Charpentier and Volhard as being the more expeditious.—*Bull. pharm. du Sud.-est, Montpel.*, 1908, v. 13, pp. 130–132.

Smith, Kline & French Co. (Analytical Report, 1908, p. 35) report that 2 of the 4 samples of sodium thiosulphate which they examined were of U. S. P. quality; one contained a trace of heavy metals, the other heavy metals, sulphides, and an alkali.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 79.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 38) point out that the commercial sodium thiosulphate is usually satisfactory. They failed to detect any objectionable impurity in the many samples examined. The salt showed a purity of upward of 98 per cent by titration with iodine.

SPARTEINÆ SULPHAS.

Gordin, H. M., reviews several articles on the chemistry and composition of sparteine.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 81–84.

Moureu and Valeur present a contribution on the chemistry of sparteine, its behavior with reagents, and the separation of its derivatives and isomers.—*J. de pharm. et de chim.*, Par., 1908, v. 28, pp. 241–252, 347–359. (See also *Compt. rend. Acad. d. sc.*, Par., 1908, v. 146, pp. 79–82; and *Bull. soc. chim. Par.*, 1908, v. 3, pp. 674 ff.)

Heikel, Gunnar, reports on the use of Mayer's reagent for the quantitative precipitation of sparteine.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1187.

Dohme and Engelhardt have used the Prescott-Gordin iodometric method for the estimation of volatile alkaloids and obtained very

good results in the estimation of sparteine in tablet form.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 818.

Lemaire, P., describes a method for the estimation of sparteine sulphate in ampoules by means of a N/10 solution and N/20 solution of picric acid.—Répert. d. pharm., Par., 1908, v. 20, pp. 1-4.

Baldoni, Alessandro, reports a study of the pharmacologic action of sparteine.—Arch. farmacol. sper., Roma., 1908, v. 7, pp. 512-534.

di Cristina, Giovanni, reports observations on the action of sparteine sulphate and of digitalin on the healthy and the degenerated heart of frogs.—J. de physiol. et de pathol., 1908, v. 10, pp. 44-59.

SPIGELIA.

Farwell, A. O., asserts that from 10 to 20 per cent of pink root usually is pure sand. Golden seal is often intermixed, but not to the same extent as formerly. The roots of *Ruellia ciliosa* Ph. are gathered in considerable quantities and offered as pink root.—Merek's Rep., N. Y., 1908, v. 17, p. 34.

Rusby, H. H., reports that spigelia is often adulterated with ruellia. All published descriptions and drawings of so-called powdered spigelia examined by Rusby and Mansfield had been found to be, without exception, descriptions and drawings of ruellia. Roots from flowering plants of each were used for comparison.—Drug. Circ., N. Y., 1908, v. 52, p. 370.

Beringer, George M., outlines a formula for fluid glycerate of spigelia, the procedure to be followed, and asserts that this is an excellent preparation, has not precipitated, and has all the aroma and peculiar pungent and acrid taste of the drug. It mixes clear with sirup, slightly cloudy with water or diluted alcohol, and turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1003.

Korndorfer, Aug., asserts that spigelia will prove serviceable in cases of mitral insufficiency of rheumatic origin, when characterized by the following symptoms: Stitching pains at the apex of the heart, but seemingly more superficial, with each systole of the ventricles. Unusually strong beat of the heart, the patient complains of hearing the heart beat. In some cases a purring feeling over the heart is experienced; or a wave-like motion not synchronous with the pulse. Palpitation, aggravated by bending forward, or from the least motion. Dyspnoea, very distressing, brought on, or aggravated, by moving in bed, or even raising the arms: the patient must lie on the right side or with the head high.—Eclectic Rev., 1908, v. 11, pp. 24-25.

SPIRITUS.

Hommel, P. E., suggests that deodorized alcohol should again become official and replace alcohol in some of the U. S. P. spirits, as, for example, anise, almond, aurantii co. cinnamon, wintergreen,

lavender, peppermint. Also tinct. opii. camph., the tinct. of card. co., and spts. of lavender co. should be prepared with deodorized alcohol, as they are oftentimes not alone prescribed for the purpose of obtaining therapeutic actions, but also to act as an admirable flavor and to enhance by their aromatic constituents the effects of drugs. The improvement of taste and odor, he asserts, is always a desideratum in pharmaceutical preparations and that could be obtained by substituting the deodorized alcohol for the common in some of the spirits.—Proc. New Jersey Pharm. Ass., 1908, pp. 103-104.

The Bureau of Chemistry reports experiments instituted for the purpose of determining to what extent the essential oil present in spirits and similar preparations tends to vitiate the results obtained by the regular methods for determining alcohol. In this connection it was found that the method of shaking out a saturated salt solution with petroleum ether and subsequently distilling the aqueous portion gave results which are closely in accordance with facts. The refractometer and ebullioscope were also employed, but the results were not as satisfactory as desired.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, p. 432.

Vandam, L., outlines methods for the determination of volatile oils in alcohol solutions.—Bull. Soc. chim. Belg., 1908, v. 22, pp. 295-298.

Gardhat, M. A. (Mon. sci., 52. 302-7), gives a series of analyses and tables with a view of drawing a comparison of the hygienic values of various spirits, brandies, wines, and industrial alcohols from the standpoint of the amount of impurities or secondary products that they contain, the acids, aldehydes, fural ethers, and higher alcohols being classed as impurities.—Chem. Absts., Am. Chem. Soc., 1908, v. 2, No. 17, pp. 2420-2421.

SPIRITUS ÆTHERIS COMPOSITUS.

Beringer, George M., in answer to the question whether "is it necessary to dispense U. S. P. compound spirit of ether when Hoffmann's anodyne is called for over the counter," says that, while officially and legally no preparation may be now designated as Hoffmann's anodyne, he assumes the position that the pharmacist has ample documentary evidence before him to prove that this name should be used solely as a synonym for the official compound spirit of ether and that alone should be meant and supplied.—Proc. Pennsylvania Pharm. Ass., 1908, p. 213-216.

Hommel, P. E., asserts that spts. ætheris co., or Hoffmann's anodyne, is a most valuable heart stimulant, anodyne, and antispasmodic. The ethereal oil, however, contained in it is a drawback, contributing a peculiar disagreeable taste, at times nauseating. Ethereal oil should be eliminated, the yield is variable by the U. S. P. process, and its

therapeutic value is questioned. Hoffmann's anodyne should be simplified by preparing it of ether and deodorized alcohol and named "Spiritus Etheris Hoffmanni."—Proc. New Jersey Pharm. Ass., 1908, p. 104.

SPIRITUS ÆTHERIS NITROSI.

"W. in G." asserts that the limited use of the spirit of nitrous ether would justify its deletion from the Ph. Germ.—Apoth. Ztg., Berl., 1908, v. 23, p. 359.

Pearson, W. A., describes and illustrates a method for the estimation of alcohol in concentrated nitrous ether.—Am. J. Pharm., Phila., 1908, v. 80, pp. 101–105.

Evans, Geo. A., discusses various causes for the deterioration of spirit of nitrous ether and the need for care in storing this preparation.—Canad. Pharm. J., Toronto, 1908, v. 42, p. 399.

Seoville, W. L., found nitrous ether concentrated to contain from 81.8 per cent to 87.12 per cent of nitrous ether.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 769.

Dohme and Engelhardt report on a shipment of nitrous ether concentrated which had to be rejected because it assayed 75 per cent of absolute nitrous ether only, instead of 90 per cent as claimed. *Ibid.*, 1908, v. 56, p. 817.

Smith, Kline & French Co. (Analytical Report, 1908, p. 36) assert that this preparation is frequently made from concentrated nitrous ether tubes and the preparation assayed before being placed on the market.

Sawtelle, J. B., examined 15 samples of spirit of nitrous ether, all freshly made by retail druggists from concentrated nitrous ether: they varied from 1.97 to 3.71 per cent ethyl nitrite. None of the samples met the U. S. P. requirement: only 2 were over 3.5 per cent.—Proc. Massachusetts Pharm. Ass., 1908, p. 79.

Sayre, L. E., reports 27 samples examined—1 standard, the others ranging from 0 to 3.28 per cent of ethyl nitrite; 1 sample was excessively acid.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 60, 64, 181, 182, 183, 294.

Army, H. V., reports on 7 samples of spirit of nitrous ether examined. Two samples were of pharmacopœial strength; of the others, 4 were 2.8 per cent, and 1 sample was 2.9 per cent.—Proc. Ohio Pharm. Ass., 1908, p. 89. (See also Midland Druggist, 1908, v. 10, p. 15.)

Blome, Walter H., reports on 6 samples of spirit of nitrous ether, assaying from 0.46 to 2.68 per cent. In the case of this preparation there is no excuse for the poor quality so frequently found.—Proc. Michigan Pharm. Ass., 1908, p. 95.

Barnard, H. E., reports on 15 samples of sweet spirit of niter examined, none of which was found with the required amount of ethyl nitrite. The low grade of this preparation, he asserts, is undoubtedly due to the fact that it readily decomposes.—Rep. Indiana Bd. Health, 1908, p. 332.

Fischer, R., reports that of 148 samples of spirit of nitrous ether examined, only 8, or 5.4 per cent of the total, were up to the pharmacopœial requirement of 4 per cent ethyl nitrite. In practically all of the worst cases a considerable deficiency in alcohol accompanied, and doubtless was largely the cause of the deficiency in ethyl nitrite.—Proc. Wisconsin Pharm. Ass., 1908, p. 41. (See also Rep. Dairy & Food Com. Wisconsin, 1909, p. 103, and Pharm. Rev., Milwaukee, 1908, v. 26, pp. 227-229.)

McGill, A., reports upon 77 samples of spiritus ætheris nitrosi examined; 28 genuine, 49 adulterated. In 1891, 9 samples were examined and only 3 were reported up to standard strength.—Bull. Lab. Int. Rev. Dept. Canada, No. 167, 1908, p. 9.

The Pharm J. (Lond., 1908, v. 27, p. 783) notes two prosecutions for the sale of sweet niter below standard; one sample contained ethyl nitrite 0.25 parts by weight; absolute alcohol, 82.15; and water, 17.60, showing a content of only 14.3 per cent of the amount of nitrous ether. The second sample was found deficient in ethyl nitrite to the extent of 40 per cent.

In another prosecution (*Ibid.*, p. 857) the sample contained 66 per cent less ethyl nitrite than it should have contained.

SPIRITUS FRUMENTI.

The Association of Food and Dairy Departments adopted the following definition of whisky:

Whisky (potable whisky) is new whisky which has been stored in wood not less than four years without any artificial heat, save that which may be imparted by warming the storehouse to the usual temperature and contains in 100 liters of proof spirit not less than 200 grammes of the substances found in new whisky, save as they are changed or eliminated by storage and of those produced as secondary bodies during aging, and in addition thereto the substances extracted from the casks in which it has been stored. It contains, when prepared for consumption as permitted by the regulations of the Bureau of Internal Revenue, not less than 45 per cent volume of ethyl alcohol, and if no statement is made concerning its alcoholic strength it contains not less than 50 per cent of ethyl alcohol, as prescribed by law.—Drug Topics, N. Y., 1908, v. 23, p. 295.

The Royal Commission on whisky and other potable spirits makes an interim report giving two conclusions: One, that no restrictions

should be placed upon the process of, or apparatus used in, the distillation of any spirit to which the term whisky may be applied as a trade description: second, that the term whisky having been recognized in the past as applicable to a potable spirit manufactured from (1) malt or (2) malt and unmalted barley or other cereals, the application of the term whisky should not be denied to the product manufactured from such materials.—*Pharm. J.*, Lond., 1908, v. 27, p. 91. (See also *Ibid.*, 1908, v. 26, p. 246, and editorial, *Brit. M. J.*, Lond., 1908, v. 1, p. 463.)

An editorial discusses the evidence given before the Whisky Commission and expresses the belief that insufficient stress has been laid upon the fact that alcohol is one thing and whisky is another.—*Brit. Food J.*, Lond., 1908, v. 10, p. 60. (See also pp. 39, 40, 59, 113.)

An editorial reprints the regulations that have been promulgated by the Commissioner of Internal Revenue for the making of distilled spirits.—*Paint, Oil and Drug Review*, Chicago, 1908, v. 45, May 27, p. 15.

Food inspection decision No. 98, issued December 7, 1908, announces that the labeling of whisky compounds will be governed by the opinion of the Attorney General, dated December 1, 1908—that neutral spirits distilled from beet-sugar molasses may be employed in the preparation of whisky compounds and imitation whiskies if the product is so labeled as to show the true character of the distillate so employed.

Crampton and Tolman present a comprehensive study of the changes taking place in whisky stored in wood and point out the important relationship among acids, esters, color, and solids in properly aged whisky, which differentiates it from artificial mixtures and from young spirits.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 98-136. (See also report of referee, *Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., pp. 25-27; *Bull. Bur. Chem.*, U. S. Dept. Agric., 1909, No. 122.)

Biarez, Ch., discusses the determination of substances other than alcohol in whisky and in rum.—*Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 106-111.

Dudley, William L., presents some notes on the Reese method for the determination of fusel oil and a comparison of results by the Allen-Marquardt method.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1271-1276.

Antoni, Wm., discusses the estimation of alcohol in fermented liquids.—*Ibid.*, 1908, v. 30, pp. 1276-1278.

Smith, Kline & French Co. (Analytical Report, 1908, p. 36) report that the 16 samples of whisky examined by them were of good quality and were free from aniline dyes, salicylic or benzoic acids.

Dunlap, Renick W., reports on 26 samples of whisky, 12 adulterated and 14 pure.—*Rep. Dairy & Food Com.*, Ohio, 1909, p. 52.

Lythgoe, Hermann C., reports that of 65 samples examined, 35 were adulterated.—Rep. Massachusetts Bd. Health, 1908, p. 611.

Sayre, L. E., reports 17 samples examined, 11 of which were either "illegal" or "misbranded."—Bull. Kansas Bd. Health, 1908, v. 4, pp. 153, 154, 183, 247, 248.

Barnard, H. E., reports that of the 17 samples of whisky examined, 8 were found to be below standard, a percentage of adulteration of 47 per cent.—Rep. Indiana Bd. Health, 1908, p. 199.

A news note calls attention to several decisions regarding the sale of whisky and alcohol containing medicines.—Am. Druggist, N. Y., 1908, v. 53, p. 234.

An editorial quotes a witness before the whisky commission who asserted that he found the after effects are worse and more lasting from the old spirit than from the new.—Brit. Food J., Lond., 1908, v. 10, p. 114.

A number of references relating to standards for whisky and other alcoholic beverages, also to alcoholism, will be found in Hyg. Rundschau, 1908, v. 18.

Lawton, Walter, presents a popular dissertation on stimulants and narcotics and their users and abusers, in the course of which he outlines the evolution of alcoholic stimulants and discusses the effects of their use on various nations.—Pharm. J., Lond., 1908, v. 26, pp. 268-269, 544-546.

Hare, H. A., calls attention to a report of experimental work done by him which clearly demonstrates that whisky, in moderate amounts, distinctly increases the bactericidal properties of the blood serum.—Therap. Gaz., Detroit, 1908, v. 32, p. 94.

Wells, G. Harlan, asserts that if weakness is the cause of sweating, in tuberculous patients, the administration of two or three teaspoonfuls of whisky in a glass of hot milk will usually control the condition.—Hahnemann. Month., Phila., 1908, v. 43, p. 609.

SPIRITUS GLYCERYLIS NITRATIS.

Nathan and Rintoul discuss the manufacture of nitroglycerin, its origin, the several forms in which it is being marketed, the improvements made in the method of manufacture, and the average yield of the product.—Chem. News, Lond., v. 97, pp. 74-75.

Will, W., reviews the history and discusses the chemistry of the several nitrates of glycerin.—Ber. d. deutsch. chem. Gesellsch., Berl. 1908, v. 41, II, pp. 1107, 1125.

Gane and Webster assert that the statement found in certain text books on chemistry that nitroglycerin on keeping undergoes spontaneous decomposition, is entirely erroneous, as nitroglycerin is a stable chemical compound and will keep for an indefinite time under normal conditions.—Drug Topics, N. Y., 1908, v. 23, p. 197.

Bernegau, L. Henry, asserts that the loss of nitroglycerin in the making of tablets was no doubt due to the evaporation in the process of granulation.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 43.

Edmunds and Roth state that, contrary to the common opinion, nitroglycerin tablets do not deteriorate greatly with age.—*J. Am. M. Ass.*, 1908, v. 51, p. 2131. (See also *Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, pp. 34–38.)

McKesson, Donald, asserts that the complaints that nitroglycerin tablets decompose spontaneously are unfounded, and that when they are deficient in strength it is due to the alkaline reaction of the diluent, which decomposes the nitroglycerin, or to lack of care in manufacturing which allows the volatile nitroglycerin to evaporate.—*Proc. N. W. D. A.*, 1908, p. 107.

Willeke (*Ztschr. f. Medizinalbeamte*, 1908, p. 268) reports a case in which 50 times the ordinary dose of glyceryl trinitrate was given. The intoxication, which was not pronounced, disappeared entirely in the course of two hours.—*Apoth. Ztg., Berl.*, 1908, v. 23, p. 327.

MacNider, William de B., in a discussion of the action of the nitrates on the heart, reports a number of experiments with nitroglycerin on the heart and blood pressure of dogs.—*Am. J. M. Sc., Phila.*, 1908, v. 135, pp. 99–105.

McCarthy, Justin M., discusses puerperal eclampsia, with special reference to its treatment with nitroglycerin.—*Brit. M. J., Lond.*, 1908, v. 1, pp. 1220–1224.

Stevenson, H. Burton, reports on 32 cases of neuritis treated with nitroglycerin.—*Med. Rec., N. Y.*, 1908, v. 73, p. 819.

SPIRITUS MYRCIÆ N. F.

Barnard, H. E., reports on 5 samples of bay rum examined, varying in specific gravity at 20° C. from 0.9136 to 0.9400, and in alcohol by volume at 20° C. from 44.5 to 57.2. Another sample was illegal, having a specific gravity of 0.9296, alcohol by volume 50, and methyl alcohol.—*Rep. Indiana Bd. Health*, 1908, p. 339.

Schimmel & Co. (*Semi-Annual Report*, April, 1908, p. 136), in discussing the B. P. C. requirements for bay oil, assert that a higher specific gravity than 0.995 can not always be ascribed to adulteration; that they have noticed an optical rotation slightly levorotatory up to -3° , and that the eugenol content is occasionally slightly higher than 65 per cent; some oils, apparently free from adulteration, have a considerably lower content—40 to 50 per cent.

Bennet, C. T., in discussing the B. P. C., says that he has observed the following limits for oil of bay: Specific gravity, 0.948 to 0.969 (15.5° C); rotation, 0° to -6° ; phenols, 42 to 56 per cent. The lighter fractions, which are sometimes preferred for the manufacture

of bay rum, may have a specific gravity below 0.900.—Pharm. J., Lond., 1908, v. 27, p. 624.

Gane and Webster examined 2 samples of bay oil distilled by themselves, with the following results: No. 1, specific gravity, 0.9654; optical rotation, -1° ; soluble in 90 per cent alcohol; phenols, 61 per cent. No. 2, specific gravity, 0.966; optical rotation, -1° ; soluble in 90 per cent alcohol; phenols, 62.1 per cent.—Drug Topics, N. Y., 1908, v. 23, p. 308.

Woolsey, J. F., reports on 5 samples of oil of bay having a phenol content of from 44 to 60 per cent; optical rotation at 25° C., from 1.5° to 4.3° ; specific gravity, from 0.965 to 0.974 at 25° .—Proc. Pennsylvania Pharm. Ass., 1908, pp. 83-84.

SPIRITUS VINI GALLICI.

The Therapeutic Committee of the British Medical Association suggests that brandy be deleted from the Ph. Brit., as it is not usually prescribed as such and requires no official description.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., Lond., 1908, v. 2, p. 320.)

Redtenbacher, P., reports a discussion on the practicability of including in the Elenchus of the Ph. Austr., a description for brandy, and points out some of the difficulties that are involved in preparing a description that will actually represent the various mixtures now sold as brandy or French brandy.—Pharm. Post, Wien, 1908, v. 41, pp. 461-462.

The Association of Food and Dairy Departments adopted the following definition of brandy:

Brandy (potable brandy) is new brandy stored in wood for not less than four years without any artificial heat save that which may be imparted by warming the storehouse to the usual temperature, and contains, in 100 liters of proof spirit, not less than 150 grams of the substances found in new brandy, save as they are changed or eliminated by storage, and of those produced as secondary bodies during aging; and, in addition thereto, the substances extracted from the casks in which it has been stored. It contains, when prepared for consumption as permitted by the regulations of the Bureau of Internal Revenue, not less than 45 per cent by volume of ethyl alcohol; and, if no statement is made concerning its alcoholic strength, it contains not less than 50 per cent by volume of ethyl alcohol, as prescribed by law.—Drug. Topics, N. Y., 1908, v. 23, p. 295.

The minister of agriculture of France is quoted as stating that his department recognizes three sorts of brandy, namely, natural brandy, produced by the distillation of wines; mixed brandy, com-

posed of cognac mixed with "industrial alcohol:" and industrial alcohol, diluted with distilled water.—*Brit. Food J.*, Lond., 1908, v. 10, p. 185.

Lythgoe, Hermann C., reports that the single sample examined was found to be factitious, being mixed with dilute alcohol, and artificially colored.—*Rep. Massachusetts Bd. Health*, 1908, p. 612.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 7 samples of brandy examined, which were found to be adulterated.—*Proc. Massachusetts Pharm. Ass.*, 1908, p. 77.

Cohn, Siegfried, has been awarded a patent for aging and improving cognac by treating the same with hydrogen dioxide, manganese dioxide, and powdered charcoal.—*Chem. Ind.*, Berl., 1908, v. 31, p. 496.

Frank-Kamenetzky, A., discusses the refractometric cognac analysis and gives several tables showing the alcohol per cent relation to specific gravity and refraction.—*Ztschr. f. öffentl. Chem.*, 1908, v. 14, pp. 184-194.

Trübsbach, Paul, discusses the probable composition of brandy, presents a table giving the alcohol, volatile acid, and ether content of 41 different wines, a second table giving the composition of wine distillates, and a third table showing the composition of 9 different samples of cognac.—*Ibid.*, 1908, v. 14, pp. 209-212, 255-256.

STAPHISAGRIA.

Schneider, Albert, asserts that *Delphinium staphisagria*, a common poison weed from Europe, may be grown anywhere in California.—*Pacific Pharmacist*, 1908-9, v. 2, p. 20.

Harvey, T. F., reports that 4 samples of cleaned seeds, after grinding, gave ash=9 to 12.8 per cent. Four commercial powders gave ash=18 to 30 per cent. A limit of 15 per cent has been suggested, and seems reasonable.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 905.

Beringer, George M., says that the fluid extract is rarely used, while the tincture is commonly used: yet a formula is given for the former and the latter omitted.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 89. (See also *Am. J. Pharm.*, Phila., 1908, v. 80, p. 431.)

Ellingwood, Finley, asserts that he has been able to do more in the complete cure of chronic gleet with staphisagria than with any other single remedy. It is not ordinarily advised in the acute stages of inflammation of the prostate, but in cases of subacute or chronic enlargement with chronic irritation it is useful, especially if combined with saw palmetto.—*Eclectic Rev.*, 1908, v. 11, p. 200.

STILLINGIA.

Blome, Walter H., reports on a sample of stillingia from New Mexico. In its gross features it resembles the official *Stillingia sylvatica*. Examined microscopically, however, its structure appears quite different from the usual article. It is quite possible that it is another variety of stillingia.—Proc. Michigan Pharm. Ass., 1908, p. 95.

Philipp Röder (Jahresbericht, Wien, 1908, p. 123) reports on 1 sample of stillingia which contained 6.2 per cent of ash.

Beringer, George M., outlines a formula for fluid glycerate of stillingia.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1003.

Baker, V. A., asserts that he has found no more reliable alternative than *Stillingia sylvatica*, but it must be gathered at the right time and prepared in the right way or it will disappoint when tested for its alterative effect.—Eclectic Rev., 1908, v. 11, p. 266.

STRAMONIUM.

Schneider, Albert, asserts that *Datura stramonium* L. is becoming gradually introduced from the East. A rank weed in waste places.—Pacific Pharmacist, 1908-9, v. 2, p. 19.

Long, J., outlines directions for harvesting the stramonium plant.—Pharm. Era, N. Y., 1908, v. 39, p. 299.

Harvey, T. F., reports that the ash of good samples of this drug often reaches 30 per cent, chiefly on account of its large calcium oxalate content, which is necessarily somewhat variable. The ash of 34 samples varied from 12.4 to 22.7 per cent, with ash insoluble in hydrochloric acid from 0.3 to 7 per cent. Of this number only 4 samples touched 15 per cent or less. Other observers have recorded 13.6 to 22 per cent. The committee's suggested limit of 15 per cent is obviously erroneous.—Chem. & Drug., Lond., 1908, v. 72, p. 905.

Umney and Bennett point out that stramonium has but little use in British pharmacy, and there is no good reason for introducing it into the Ph. Brit.—Year-Book of Pharmacy, Lond., 1908, p. 517.

Smith, Kline & French Co. (Analytical Report, 1908, p. 36) report examining 19 samples of stramonium; 4 were not the leaves of *Datura stramonium*; 9 were below the U. S. P. standard of 0.25 per cent total mydriatic alkaloids; the other 6 ranged in content of total alkaloids from 0.25 to 0.37 per cent.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 79.

Vanderkleed, Charles E., reports 25 assays of stramonium leaf; 0.130 per cent lowest; 0.510 per cent highest; 0.341 per cent average; 21 above and 4 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Bernegau, L. Henry, reports on a sample of stramonium leaves containing an average of 0.262 per cent mydriatic alkaloids. On closer examination the sample was found to consist of a mixture of stramonium and hyoscyamus.—*Am. J. Pharm., Phila.*, 1908, v. 80, p. 222.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 39) report finding between 0.2 and 0.3 per cent of alkaloids in the samples examined by them during the year.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 77) reports on 3 samples of stramonium leaves, the ash content of which varied from 15.05 to 18.48 per cent.

Smith, Kline & French Co. (Analytical Report, 1908, p. 19) report that the 2 samples of extract of stramonium examined by them contained 0.915 and 0.989 per cent of mydriatic alkaloids, respectively.

Webster, M. H., reports examining 2 samples of extract of stramonium, one containing 0.775 per cent of alkaloids while an examination made two years previously showed it to contain 0.77 per cent, and the other contained 0.83 per cent of alkaloids.—*Chem. & Drug., Lond.*, 1908, v. 73, p. 172.

Ribaut, H. (*Bull. d. Sciences Pharmacol.*, 15, 495-503, Sept., Toulouse) reports that 2 samples of extract of stramonium leaves deteriorated 31 and 8 per cent, respectively, in the course of four years.—*Chem. Zentralbl.*, Berl., 1908, v. 79, p. 1625.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22) report that the one sample of fluid extract of stramonium examined by them contained 0.25 gm. of mydriatic alkaloids in 100 cc.

Beringer, George M., outlines a formula for fluid glycerate of stramonium.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1004.

Waugh, William F., presents a communication on stramonium as seen by Italian eyes. He asserts that two alkaloids are derivable from stramonium, daturine and stramonium [*sic.*]. Most writers look upon daturine as identical with atropine, but their crystallization is different (Erhardt). Stramonium [*sic.*] is yet to be investigated: it was first isolated by Tromsdorff (?).—*J. Therap. and Dietet.*, Boston, 1908-9, v. 3, pp. 39-42.

STRONTII BROMIDUM.

Carron and Raquet discuss the preparation of salts of strontium free from barium and propose to the Codex revision commission a method for the preparation of pure strontium carbonate.—*Répert. d. pharm.*, Par., 1908, v. 20, pp. 241-245.

Hunsberger, Ambrose, reports a study of the available samples of strontium bromide. Five samples of American manufacture were found to be free from barium and to give solutions that were clear and odorless. Two samples of foreign make were also found to be

free from barium but were not completely soluble in water and, on standing, developed an odor of H_2S . One additional sample was found to contain one-tenth of 1 per cent of barium.—*Ibid.*, 1908, pp. 164-168.

Robinson, William J., contributes a clinical study of the bromine compounds, with particular reference to the strontium bromide. He calls attention to the introduction of the bromides and their early use for the same purpose as the iodides. He gives a résumé of the present uses of the bromides and lays stress upon the advantages of the strontium bromide.—*J. Am. M. Ass.*, 1908, v. 50, pp. 189-192.

STRONTII IODIDUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 36) report that the one sample of strontium iodide which they examined contained barium and heavy metals.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 79.

STRONTII SALICYLAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 36) report that 1 sample of strontium salicylate which they examined contained an excess of heavy metals.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 79.

Engelhardt and Jones report that of 8 samples of synthetic strontium salicylate examined, 4 contained phenol.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 868.

STROPHANTHINUM.

Hartwich, C., reviews some of the recent literature relating to ouabain and its relation to strophanthin.—*Schweiz. Wchnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 629-635.

Müller, Rudolf, discusses the pharmacognostic characteristics of known species of *Acocanthera* and reviews the origin and the chemistry of ouabain, a glucoside identical with the strophanthin obtained from *Strophanthus gratus*.—*Ztschr. d. allg. österr. Apoth.-Ver.*—Wien, 1908, v. 46, p. 319 ff.

Houghton, E. M., reports finding, in the course of experiments with different samples of strophanthin obtained in this country and Europe, one strophanthin 90 times as strong as another.—*Tr. Am. M. Ass., Sec. Pharm. and Therap.*, 1908, p. 164.

Mines, George Ralph, reports a study of the Munchi arrow poison and concludes that the chief toxic ingredient of the sample of Munchi arrow poison presented to the Cambridge Physiological Laboratory in 1900 by Maj. Alder Burdon is the glucoside strophanthin.—*Journal of Physiology, Lond.*, 1908, v. 37, pp. 37-50.

Liebermeister, G., discusses the use of strophanthin, more particularly its intravenous injection, and calls attention to the care that must be exercised in this connection, as the margin between therapeutic efficiency and toxic effect is very small.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 102.

Hatcher and Baily point out that the action of strophanthin may be elicited promptly in suitable cases by injecting it subcutaneously. Three-tenths to half a milligram of the crystallized strophanthin in sterile (boiled) salt solution, 1:4000, may be injected deeply into the gluteal muscle once in 24 hours without fear of abscess formation or other side actions.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 161.

Santesson, C. G., has obtained quick effect in grave cases of cardiac insufficiency from intravenous injections of strophanthin.—Lancet, Lond., 1908, v. 175, p. 273.

Maurel, M., reports on the influence exerted by the method of administration on the minimum fatal dose of ouabain and concludes that for the rabbit the administration by the mouth is 40 times less toxic than when given hypodermically.—Compt. rend. Soc. de biol., Par., 1908, v. 65, pp. 14-15.

He also reports observations on the minimum fatal dose of strophanthin and points out that for the three species of animals under observation (frog, pigeon, and rabbit) strophanthin is much more active when given by intramuscular injections or hypodermically than when given by mouth.—*Ibid.*, 1908, v. 64, pp. 315-317.

Hatcher, Robert A., asserts, as a result of his experiments, that the oral administration of strophanthin (and of *strophanthus*) in therapeutics is irrational, in the present state of our knowledge concerning absorption and excretion in the alimentary canal and destruction within the animal organism.—Am. J. Physiol., 1908, v. 23, pp. 303-323.

Folia Therapeutica (Lond., 1908, v. 2, p. 28) summarizes the conclusions of Fränkel, Starek, Schönheim, and Hedinger as to the value of strophanthin administered by intravenous injection.

Hewlett, Albion Walter, states that a patient who had an absolutely irregular heart received a milligram of strophanthin, and the heart was greatly slowed and made regular. Atropine and digitalis act on absolutely irregular hearts much as they do on normal hearts.—J. Am. M. Ass., 1908, v. 51, p. 659. (See also under *Strophanthus*.)

STROPHANTHUS.

Gilg, Ernst, reviews some of the recent literature relating to the more desirable variety of *Strophanthus* for use in medicine, and expresses the belief that *Strophanthus hispidus* is to be preferred, if for no other reason than that it can be obtained of guaranteed purity

in any necessary quantity.—Ber. d. pharm. Gesellsch., 1908, v. 18, pp. 284-297.

Meyer, Arthur, discusses the availability of the several varieties of *strophanthus* and concludes that it is impracticable for the pharmacognocist to determine which variety of *strophanthus* is to be used, as a number of very important questions must be answered by the pharmacologist or therapist before it is permissible to substitute one variety of *strophanthus* for another.—Arch. d. Pharm., 1908, v. 246, pp. 541-545.

Rusby, H. H., asserts that in spite of repeated exposures the worthless brown *Strophanthus hispidus* continues to arrive as "strophanthus." Its use in preparations is not nearly so general as a year ago, yet the fact that it can be bought in any quantity in all of our drug markets shows clearly that many lives are continually jeopardized, and more or less of them doubtless lost, through this wicked fraud.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 791. (See also Proc. Ass., Off. Agric. Chem., 1908, 25th Ann. Conv., p. 138; Bull. Bur. Chem., U. S. Dept. Agric., 1909, No. 122.)

Modeen, Hjalmar, reports examining a number of samples of *strophanthus*. He asserts that the commercial drug is frequently contaminated with other more or less closely related seeds.—Apoth. Ztg., Berl., 1908, v. 23, pp. 596-597.

Weigel, G., asserts that the quality of the available *strophanthus* seed has been materially improved in recent years, and it is now quite evident that more attention is being paid to the collecting of this drug.—Pharm. Zentralh., 1908, v. 49, p. 961.

Carr and Reynolds have found good samples of *Strophanthus kombé* to possess approximately three times the activity of poor specimens, they quote the opinion of Dixon and Haynes that hundreds of patients die annually from *strophanthus* and its allies, owing to their great variability.—Pharm. J., Lond., 1908, v. 80, p. 543.

Schaub, Fr., discusses the testing of *strophanthus* seed, reports a number of experiments with various reagents and methods, particularly sulphuric acid of varying strength, and concludes that the more satisfactory results are to be obtained with 75 per cent sulphuric acid applied to thin sections of the seed.—Apoth. Ztg., Berl., 1908, v. 23, pp. 920-922.

Hanausek, T. F., calls attention to the article published by him in 1887 (Pharm. Post, 1887, p. 302) discussing the sulphuric acid test for *strophanthus*.—*Ibid.*, 1907, v. 23, p. 949.

Philipp Röder (Jahresbericht, Wien, 1908, p. 129) reports on 4 samples of *strophanthus* which were found to contain from 3.70 to 4.31 per cent of ash.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. lix) discuss the papers by Meyer and Gilg on *strophanthus*, also observations on the

relation of the strophanthin content of seeds to their physiologic activity. They also outline (p. cxviii) Fromme's method for determining the strophanthin content.

Kahn, Joseph, presents two tests for the differentiation of the tincture of strophanthus from tincture of digitalis, and explains the reaction.—Proc. New York Pharm. Ass., 1908, p. 227.

Dulière, W., discusses the appearance, specific gravity, and the extract content of tincture of strophanthus made according to the requirements of the International Conference for the Unification of Formulae for Potent Medicaments.—J. de pharm. d'Anvers, 1908, v. 64, pp. 121-122.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. lxxxiv) point out that powdered strophanthus, from which the fatty oil has been removed, yields a tincture that mixes much more readily with water and is altogether more satisfactory than one prepared from the fat-containing drug.

Beringer, George M., does not believe that the increase in the drug strength in tincture of strophanthus has resulted in doubling the strength of the tincture, as the drug is never exhausted by the menstruum.—Am. J. Pharm., Phila., 1908, v. 80 p. 436. (See also Proc. New Jersey Pharm. Ass., 1908, pp. 93-94.)

Wilbert, M. I., points out the difference in origin of strophanthus and calls attention to a recent paper by Gilg, who suggests the use of *Strophanthus hispidus* in preference to the other varieties of strophanthus. He also points out that the international standard tincture of strophanthus is a more desirable preparation than the U. S. P. tincture.—Tr. Am. M. Ass., Sec. Pharm. and Therap., 1908, p. 163.

Houghton, E. M., reports finding tincture of strophanthus prepared according to the seventh revision of the U. S. P. approximately ten times as active as the corresponding fluid extract of digitalis.—*Ibid.*, 1908, p. 164.

Edmunds, C. W., reports finding tinctures of strophanthus which varied quite as much as tincture of digitalis: that the fatal dose of one preparation was 0.0012 cc., of another 0.0025, of still another 0.005; in other words, a ratio of 1 to 4.—*Ibid.*, 1908, p. 162.

Hatcher and Baily discuss the use of tincture of strophanthus and strophanthin and point out that the dosage and the proper mode of exhibiting strophanthus and strophanthin require clinical investigation.—*Ibid.*, 1908, p. 161.

For additional references on the use of strophanthus and strophanthin see Index Medicus and the J. Am. M. Ass.

STRYCHNINA.

Veley, Victor Herbert, discusses the affinity of the nux vomica alkaloids, strychnine and brucine, for hydrochloric acid, and con-

cludes that in both cases the affinity value of one amino-group was beyond the limit value of the methyl-orange method, but it has been shown independently that the value of the brucine group is greater than that of strychnine. The affinity value of the second amino-group is of the order of value of the betaines, which accords with the conclusions arrived at from chemical considerations: but here the state of affairs appears to be reversed, as the grouping in brucine has a slightly lower value than that of strychnine.—*J. Chem. Soc., Lond.*, 1908, v. 93, pp. 2120, 2122.

Heikel, Gunnar, discusses the use of Mayer's reagent for the quantitative estimation of strychnine.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1187.

Leuchs, Hermann, describes the oxidation of strychnine by means of potassium permanganate dissolved in acetone.—*Ber. d. deutsch. chem. Gesellsch., Berl.*, 1908, v. 41, II, pp. 1718–1720.

Kroeber, Ludwig, discusses the sterilization of ampoules containing solutions of strychnine nitrate and calls renewed attention to the need for securing an alkali-free glass for ampoules designed for these solutions.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 487.

Scholtz, M., discusses the production and the properties of the double salt of ferric chloride with strychnine hydrochloride.—*Ber. d. pharm. Gesellsch., Berl.*, 1910, v. 18, p. 46.

Maurel, E., discusses the influence of the method of administration on the minimum fatal dose of strychnine sulphate, and points out that the difference of administration has not much influence with the frog, but with the pigeon and rabbit the hypodermic injection is from two to three times as active as administration by mouth.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64, pp. 353–354.

Bringard (*Arch. méd. d'Angers*, June 20, 1908) cured a dog poisoned by strychnine by the peritoneal injection of 1 gm. of chloral, dissolved in 5 gm. of water. Five minutes after the injection, complete anæsthesia ensued: the contractions disappeared, and the respiration ceased to be embarrassed; a short time later the contractions reappeared, but much less violent, and finally disappeared completely. The dog fell asleep and, on awaking, was cured. Bringard estimates the proper dose at 20 to 25 cgm. per kilo of animal.—*Répert. d. pharm., Par.*, 1908, v. 20, p. 307.

Sano, T. (*Pflügers Arch.*, 1908, Bd. 124, pp. 381–391), presents a contribution to our knowledge of the pharmacodynamic action of strychnine and caffeine.—*Biochem. Centralbl., Leipz.*, 1908, v. 7, p. 950.

Starr, M. Allen, advocates the use of large doses of strychnine in the treatment of epidemic infantile paralysis.—*J. Am. M. Ass.*, 1908, v. 51, p. 118.

Wells, G. Harlan, in discussing the treatment of pulmonary tuberculosis, asserts that he first tries giving one two-hundredth grain of strychnine sulphate three times a day before meals. If this fails he increases the dose to one one-hundredth or one-fiftieth grain.—Hahneman. Month., Phila., 1908, v. 43, p. 601.

For additional references on the action and use of strychnine, see Index Medicus and the J. Am. M. Ass.

STYRAX.

The therapeutic committee of the British Medical Association suggests that styrax be deleted from the Ph. Brit., as benzoin and tolu are sufficient.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Holm, Theo., describes, with illustrations, the morphological and structural characteristics of *Liquidambar styraciflua* L., a plant closely related to *Liquidambar orientalis* Mill., from which the official storax is derived.—Merck's Rep., N. Y., 1908, v. 17, pp. 31–34.

Harvey, T. F., reports that the content of neutral ethers and alcohols in unstrained storax (5 samples) was found to lie between 29 and 40 per cent; the free acids, as cinnamic, between 3.2 and 5.3 per cent. The method used involved the extraction of ethers, etc., from alkaline solution, precipitation of resins by CO_2 , and subsequent extraction of aromatic acids with ether after the addition of sulphuric acid.—Chem. & Drug., Lond., 1908, v. 72, p. 905.

Dohme and Engelhardt rejected one shipment of storax on account of too large an amount of water being present.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 815.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 39) report finding pine resins in many of the samples of storax examined by them. They point out that the estimation of the cinnamic acid forms the most convenient method for valuation of this substance.

SULPHONETHYLMETHANUM.

Gabutti, E. (Apoth.-Ztg., 22, 770; from Boll. chim. farm., p. 533, 1907), for the detection of sulphonal in trional and tetronal, makes use of the difference in the solubilities of the three substances in ether and of the characteristic crystal forms obtained by evaporating 1 to 2 drops of the saturated solution upon a microscopic slide. The solubilities in ether are, respectively, 1 part sulphonal in 133 parts ether, 1 part trional in 15.57 parts, and 1 part tetronal in 9.83 parts.—Chem. Abstr., Am. Chem. Soc., 1908, v. 2, No. 11, p. 1598.

Würschmidt, Augustus, uses trional extensively in all forms of mental disease. It possesses the advantage over sulphonal of being more soluble and sufficing in smaller doses. Small doses are insuffi-

cient in adult males, 2 grams being necessary on the average. It is apparently free from the untoward symptoms occasionally present after sulphonal. He has seen the gait and speech of general paralytics become worse after taking this drug, and recover again when it is left off.—*Fol. Therap., Lond., 1908, v. 2, p. 18.*

The *Pharmaceutical Journal* (*Lond., 1908, v. 80, p. 337*) notes the death of a woman at Brighton from the effects of taking trional. She had been in the habit of taking drugs to induce sleep.

SULPHONMETHANUM.

Kempf, Richard, discusses the vacuum distillation of sulphonmethanum. He finds the melting point of the sublimed substance to range from 127–128° C., while the melting point of the commercial substance is given as being from 125–126° C.—*J. f. prakt. Chem., Leipz., 1908, v. 78, p. 255.*

Talley, James E., reports a case of prolonged use and toxic action of sulphonal, and concludes that the prolonged use of this drug is never a safe procedure, as the literature attests. He recommends discontinuing its use, at least occasionally, in all cases.—*Am. J. M. Sc., Phila., 1908, v. 136, pp. 581–583.*

Würschmidt, Augustus, usually prescribes this drug to be taken in wafers in doses of from 1 to 3 grams. The sleep induced is thought to be more profound than that induced by paraldehyde or chloral. A long continuance of the drug is responsible for a weakening of the motor functions of the body, more especially a sense of weariness and a loss of tone. In one case he noticed an actual paresis of a limb. These symptoms abate when the drug is discontinued, and by the second day disappear entirely. He gives the solubility in water as 500 parts, and a medium dose at 2 grams.—*Fol. Therap., Lond., 1908, v. 2, p. 18.*

An abstract (*Rev. de Med. y Cirg. Prácticas*) reprints the conclusions arrived at by Casarelli from the use of sulphonal in the treatment of diabetes.—*Rev. Med. Cir., Habana. 1908, v. 13, p. 63.*

Additional references on the use of sulphonal and trional will be found in the *Index Medicus*.

SULPHUR.

Day, David T., points out that the sulphur industry of the United States during the past few years has been characterized by steady growth in consumption, increase in production, and decrease in quantity and value of imports as a result of the development of domestic resources.—*J. Frankl. Inst., Phila., 1908, v. 166, p. 355.*

An unsigned note points out that the sulphur deposits of Louisiana were discovered about 1868, but, because of the beds of water bearing

sands overlying them, were not developed until 1895, when a process of obtaining sulphur from these beds was invented by Herman Frasch, of Cleveland, Ohio.—Chem. Eng., 1908, v. 8, p. 170.

The method of working the sulphur deposits of Louisiana is outlined and illustrated.—Pharm. Ztg., Berl., 1908, v. 53, p. 438.

An unsigned article (Chem. Trade J., 44, 146) points out that the vigorous competition of American sulphur has brought about almost complete stagnation in Sicily. The number of mines worked is decreasing yearly, as is also the production and the labor employed.—Chem. Abstr., Am. Chem. Soc., 1909, v. 3, p. 1064.

An abstract (from Mfg. Record) presents a popular account of the methods that are employed in the production of sulphur in Louisiana and the uses to which sulphur is being put at the present time.—Midl. Drug., Columbus, 1908, v. 9, pp. 506-508.

Hill, Charles Alexander, suggests as a standard for sulphur 2 parts arsenic per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

Fouzes-Diacon, D., outlines tests for determining the purity of sulphur, and discusses the uses for this article in agriculture.—Bull. pharm. du Sud.-est., Montpel., 1908, v. 13, pp. 388-391.

Eumorfopoulos, Nicholas, reports on the boiling point of sulphur with a detailed account of measurements and an investigation of the various sources of experimental error. The mean value of the boiling point of sulphur obtained is 443.58° .—Proc. Roy. Soc., Lond., 1908, v. 81, Series A, pp. 339-362.

Callendar, H. L., presents a note on the boiling point of sulphur, commenting on the results obtained by Eumorfopoulos.—*Ibid.*, 1908, v. 81, Series A, pp. 363-366.

Sabbanti, L., discusses the pharmacological action of colloidal sulphur.—Arch. internat. de pharmacod. et de therap., 1908, v. 18, pp. 374-391.

Bory, Louis, discusses the possibility of introducing sulphur into the organism by means of subcutaneous injections and presents some observations on the available methods for doing so.—Compt. rend. Soc. de biol., Par., 1908, v. 64, p. 109.

Diesing reports observations on the use of sulphur in malaria both as a prophylactic and cure.—Therapist (The), Lond., 1908, v. 18, pp. 143-144.

Felter, H. W., discusses the therapeutics of sulphur, points out the possible application of this remedy in a variety of diseases, and concludes that if physicians would study sulphur for its many good qualities in chronic diseases, they would be pleasantly surprised at the good it will accomplish for them.—Eclectic M. J., Cincin., 1908, v. 68, pp. 501-503.

Neiderkorn, J. S., asserts that sulphur is a useful remedy in cases where it is evident that the patient feels sick and looks sick.—*Ibid.*, 1908, v. 68, p. 28.

Fornias, Edward, presents a comprehensive review of the special action of sulphur, its action on the nervous system, its use in general pains, in regional pains, and its action on the vegetative system.—Hahnemann. Month., Phila., 1908, v. 43, pp. 241–266, 401–415.

Betts, Norman S., in discussing the management of the menopause, asserts that the transitory hyperæmias have been often benefited by sulphur.—*Ibid.*, 1908, v. 43, p. 426.

Bernstein, Ralph, recommends sulphur among the remedies indicated in cases of eczema.—*Ibid.*, 1908, v. 43, p. 369.

For additional references on the pharmacology and use of sulphur see Index Medicus.

SULPHUR LOTUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) report that the 1 sample of washed sulphur examined by them was of U. S. P. quality.

Moulton, W. C., examined 10 samples of washed sulphur with the following results: Residue, 3 had 0.1, 0.05, and 0.09 per cent, respectively, and the rest none. Earthy and metallic impurities, 1 had a trace, 2 a very slight trace, and the rest none. Arsenic, 1 had a distinct test, another a faint test, and the rest none. Acidity, 1 was acid, another slightly acid, and the rest neutral.—Proc. Massachusetts Pharm. Ass., 1908, p. 78.

Diekman, Geo. C., designates sulphur ointment as “a pharmaceutical curiosity of little therapeutic value” and suggests that a preparation made with sublimed sulphur would be better, owing to the sulphur dioxide present.—Am. Druggist, N. Y., 1908, v. 52, p. 90; Bull. Am. Pharm. Ass., 1908, v. 3, p. 84.

SULPHUR PRÆCIPITATUM.

Sorley, S. M., presents a review of the literature relating to the origin and history of precipitated sulphur.—Pharm. Rev., Milwaukee, 1908, v. 26, pp. 353–356.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) report that the melting point and ash were high in the 1 sample of precipitated sulphur examined by them.

Barnard, H. E., reports on 5 samples of precipitated sulphur examined, 4 of which were illegal and consisted of a mixture of calcium sulphate and sulphur.—Rep. Indiana Bd. Health, 1908, p. 327.

Fischer, R., reports that of 96 samples of precipitated sulphur analyzed only 11, or about 11.5 per cent of the total, complied with

the requirements of the Pharmacopœia.—Proc. Wisconsin Pharm. Ass., 1908, p. 42. (See also Rep. Dairy & Food Com., Wisconsin, 1909, p. 104.)

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 39) report that arsenic was not present, in more than 3 parts per million, in the majority of the samples of precipitated sulphur examined by them during the year, the products of first-class makers being satisfactory. Two specimens showed very high contamination. The non-combustible matter ranged from 0.2 to 0.38 per cent, with a single exception, in which 49 per cent was found.

Smith and Brownlee, in a contribution to our knowledge of amorphous sulphur, discuss precipitated sulphur and report a number of experiments in connection therewith.—Ztschr. f. physik. Chem., 1908, v. 61, pp. 209–226.

SULPHUR SUBLIMATUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) report that 4 of the 5 samples of sublimed sulphur examined by them contained an excessive amount of ash.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 40) report that 6 of the 50 samples of sublimed sulphur examined by them contained between 4 and 6 parts of arsenic per million. They think that a limit of 4 parts of arsenic per million would be commercially practicable.

SULPHURIS IODIDUM.

Moerk, Frank X., points out that the U. S. P. contains no percentage requirement for sulphur iodide, but that, from the volumetric solution used, it should contain not less than 75 per cent iodine (U. S. P. table, p. 547, gives about 80 per cent).—Proc. Am. Pharm. Ass., 1908, v. 56, p. 899.

Ephraim, Fritz, discusses the probable existence of a chemical combination of iodine with sulphur and concludes that a chemical combination does not take place, either by fusing or dissolving the two constituents, and that the substance described as sulphur iodide is in reality but a mixture of the two elements.—Ztschr. f. anorg. Chem., 1908, v. 58, pp. 338–352.

Smith and Carson present a further contribution on the composition and behavior of the system S-I.—Ztschr. f. physik. Chem., 1908, v. 61, pp. 200–208.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) report that the 1 sample of sulphur iodide which they examined was of U. S. P. quality.

SUMBUL.

The therapeutic committee of the British Medical Association suggests that sumbul root and preparations be deleted from the Ph.

Brit., as they have no important action.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Beringer, George M., outlines a formula for fluid glycerate of sumbul.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1004.

Fyfe, John William, asserts that the fluid extract of musk root has frequently been employed in asthma, and in many cases with decidedly beneficial results. In hysteria its administration has been followed by marked improvement, and in epilepsy it is said to have proved useful. In Asiatic cholera it is believed by some physicians of large experience to be superior to all other drugs.—Eclectic Rev., 1908, v. 11, p. 286.

SUPPOSITORIA.

Goetting, E. C., discusses the method of making suppositories. He prefers molded suppositories and warns against the use of lycopodium as a dusting powder, as it is irritating to many patients.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, p. 63.

An unsigned article describes, with illustration, a simple apparatus for making suppositories by cold compression.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, pp. 107-109.

SUPPOSITORIA GLYCERINI.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) report that they examined several brands of glycerin suppositories, some of which contained an excess of monohydrated sodium carbonate, others an excess of stearic acid.

SYRUPI.

[NOTE.—Following Government Printing Office style, which is governed by Webster's International Dictionary, the spelling "sirup" is used in this publication.]

Cook, E. Fullerton, discusses a number of the official sirups and offers suggestions for their improvement.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 951-963. (See also Pharm. Era, N. Y., 1908, v. 40, p. 695, 696.)

Mittelbach, Wm., thinks the official processes for making these preparations could be greatly improved and better products obtained more rapidly. He makes certain suggestions for obtaining these results.—Proc. Missouri Pharm. Ass., 1908, p. 97.

Hemm, Francis, reviews some of the pharmacopœial history of sirups during recent decades and asserts that he had found that cold-process sirups keep best and give best satisfaction.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 968.

Hallberg, C. S. N., points out that pharmacists should be very careful in selecting their materials for sirups. They should also

take into consideration the effect of heat and how sirups should be preserved after being prepared. Any formula is likely to be unsatisfactory unless these several conditions are taken into consideration. He also recommends the cold-solution process for making sirups that are to be used in large quantities.—*Ibid.*, 1908, v. 56, p. 965.

Wilbert, M. I., asserts that cleanliness is perhaps the all-important factor in making official sirups.—*Ibid.*, 1908, v. 56, p. 969.

Berger, Fr., presents a critical review of the sirups and honeys of the Ph. Helv. IV.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 802–806.

Dott, D. B., contributes a brief note on aromatic sirups and calls attention to the solvent power of sugar, which, he thinks, seems to have been lost sight of or ignored.—Pharm. J., Lond., 1908, v. 80, p. 380.

Arends, G., discusses the proposition made by J. Lorenzen, that sirups be preserved in wide-mouth bottles sealed with paraffin containing 5 per cent of salicylic acid. The latter Arends thinks superfluous.—Pharm. Ztg., Berl., 1908, v. 53, p. 656.

Diehl, C. Lewis, presents a compilation of comments on the sirups of the N. F.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 147.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) report that they frequently examine sirup for the presence of reducing sugars.

SYRUPUS.

Thompson and Hagan recommend the use of a barrel churn for the making of simple sirup. This method they believe to be preferable to percolation.—Bull. Pharm., Detroit, 1908, v. 22, p. 250.

Green, George C., criticizes the proposition to make sirup by agitation and asserts that even the best available sugar contains considerable dirt. He prefers percolation and describes the method that is giving him satisfactory results.—*Ibid.*, 1908, v. 22, p. 385.

Cook, E. Fullerton, records a number of experiments made to determine the most desirable method of procedure for making simple sirup. He presents the results of these experiments in the form of a table.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 954–955. (See also Pharm. Era, N. Y., 1908, v. 40, p. 696.)

Lehn & Fink (Annual Report for 1908, p. 27) point out that the official tests for sirup should include a limit of 2 per cent of reducing sugars. Also that the sirup of commerce usually has a higher specific gravity and optical rotation than is required by the U. S. P.

Baird, J. W., quotes from the Summary of Drug Statistics of the State Board of Health for 1906, 1 sample of sirup which was found to be adulterated.—Proc. Massachusetts Pharm. Ass., 1908, p. 77.

SYRUPUS ACIDI CITRICI.

Cook, E. Fullerton, points out that the addition of the tincture of fresh lemon peel directly to the sirup produces a preparation that is slightly cloudy and recommends the adoption of the method of procedure directed for sirup of orange.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 956.

SYRUPUS ACIDI HYDRIODICI.

Moerk, Frank X., points out that the assay of sirup of hydriodic acid and sirup of ferrous iodide should be identical. He adds that hypophosphorous acid interferes in these assays by giving a black precipitate of metallic silver.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 899-900.

Brown, George S., reports that of the 5 specimens examined only 2 met pharmacopœial requirements. The remaining 3 were highly discolored. He finds absolutely no reason why a colorless sirup of hydriodic acid should not be dispensed, for the present official formula is such as to enable the pharmacist to prepare it extemporaneously in such quantities as may be called for.—*Proc. Louisiana Pharm. Ass.*, 1908, p. 63.

SYRUPUS AURANTII.

Cook, E. Fullerton, suggests that, in the making of U. S. P. sirup of orange, the tincture of sweet orange peel be rubbed with talc and the mixture allowed to stand for a few moments to allow the alcohol to evaporate before the water is added. This procedure, he believes, would yield a sirup of much greater delicacy of odor and flavor.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 957.

Utech, P. H., presents a formula for sirup of orange which he believes will yield a preparation that is more satisfactory and more permanent than that at present official.—*Ibid.*, 1908, v. 56, p. 950.

Searby, W. M., believes that the alcohol present in sirup of orange is an important factor in the frequent souring of this sirup.—*Ibid.*, 1908, v. 56, p. 969.

Hommell, P. E., recommends that the formula for sirup of orange be improved, as it does not keep well in warm weather. The oil of orange should replace the tincture of sweet orange peel, which contains gummy matter and is prone to decomposition; glycerin should be added, and the sirup made denser.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 100.

SYRUPUS CALCII LACTOPHOSPHATIS.

Cook, E. Fullerton, suggests that the use of 100 cc. of water in rinsing the mortar, instead of 50 cc., as directed by the official formula for sirup of calcium lactophosphate, would be advantageous.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 958.

Jones, H. W., presents some observations on the keeping qualities of sirup of calcium lactophosphate, and concludes that the cane sugar of sirup of calcium lactophosphate U. S. P. is inverted at the rate of about 15 per cent per month, and that an increase in the acidity of this preparation increases the rate of inversion.—*Ibid.*, 1908, v. 56, pp. 869-873.

SYRUPUS CALCIS.

Cook, E. Fullerton, believes that the U. S. P. process for sirup of lime is satisfactory, providing a good quality of lime be used.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 958.

SYRUPUS COFFEEÆ N. F.

Beringer, George M., outlines a formula for sirup of coffee, and asserts that the product, while only one-half the coffee strength of the N. F. formula for sirup of coffee, will be found quite strong enough for soda-water sirup, and if a stronger sirup is wanted the proportion of the fluid glycerate can be increased.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 990.

SYRUPUS FERRI CITRO-IODIDI N. F.

Kahn, Joseph, presents a modified process for preparing this sirup free from uncombined iodine and containing all the iron as ferric iodide.—*Drug Circ.*, N. Y., 1908, v. 52, p. 161.

SYRUPUS FERRI IODIDI.

Moerk, Frank X., calls attention to some minor shortcomings of the U. S. P. VIII assay for sirup of ferrous iodide.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 899.

Rupp, E., thinks the Ph. Helv. IV assay for sirup of ferrous iodide is of doubtful value, in that chlorides and bromides are included in the titration. He thinks their absence should be secured by special tests.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 237.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) state that they made an extended research to determine the cause of discoloration frequently seen when the U. S. P. directions were followed in making sirup of iron iodide. Several samples were examined; 1 contained only 2.4 per cent of ferrous iodide.

Harvey, T. F., asks if it would not be advisable to substitute a liquor eight times the strength of the sirup and prepare the sirup as required. Such liquor contains 66.4 per cent iodine and is very frequently standardized by silver nitrate and ammonium thiocyanate after Volhard.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 905.

Lehn & Fink (Annual Report for 1908, p. 5) discuss the N. F. formula for liquor ferri iodidi and suggest certain changes which

should be introduced. They call particular attention to the fact that heat is injurious and should be avoided.

Cook, E. Fullerton, asserts that when the diluted hypophosphorous acid is added sirup of ferrous iodide becomes slightly more yellowish in color. He has found this sirup to be reasonably permanent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 958.

Lorenzen, J., asserts that sirup of ferrous iodide preserved with citric acid is to be preferred.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 295.

"C. C." [C. Crinon?] notes that for the preparation of sirup of iodide of iron, Ph. Fr. V., the mixture of sirup of acacia and sirup of orange flowers has been replaced by simple sirup, and the formula provides for the addition of 0.001 gm. of tartaric acid, intended to preserve the sirup. He adds that the commission did not venture to replace the 0.5 per cent sirup by the 5 per cent sirup adopted by the Brussels Conference; the Codex contents itself with mentioning the latter.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 538.

Sayre, L. E., reports 8 samples examined, 5 below and 3 above standard.—*Bull. Kansas Bd. Health*, 1908, v. 4, pp. 182, 183, 298.

SYRUPUS FERRI, QUININÆ ET STRYCHNINÆ PHOSPHATUM.

Ilhardt, W. K., finds the official sirup of the phosphates of iron, quinine, and strychnine most unsatisfactory. The glycerite, in his experience, even when the directions were closely followed, never turned out a permanent solution. This may be obviated by reducing the glycerin and increasing the water, but even then, when mixed with sirup, the preparation precipitated in less than a week. He has found Wyeth's formula very satisfactory.—*Proc. Missouri Pharm. Ass.*, 1908, p. 93.

Cook, E. Fullerton, asserts that gentle heating seems to be necessary to dissolve the quinine as well as the soluble ferric phosphate, in preparing the glycerite from which the sirup is made.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 958.

SYRUPUS HYDROCHLORPHOSPHATUM, N. F.

Klenze, W. F., presents a formula for compound sirup of phosphates with iron and strychnine. He believes it is an improvement on that now included in the N. F.—*Apothecary*, Boston, 1908, v. 5, p. 24.

Feil, Joseph, notes that the formula is considered worthless, but is said to be capable of change.—*Drug. Circ.*, N. Y., 1908, v. 52, p. 113.

Nitardy, F. W., reduces the quantity of sugar and materially changes the working directions.—*Ibid.*, 1908, v. 52, p. 160.

SYRUPUS HYPOPHOSPHITUM.

Cook, E. Fullerton, asserts that the sugar content of sirup of hypophosphites is very light, being only 650 gm. to the 1,000 cc. of finished sirup. If a much larger amount is used, however, say 800 gm. or 750 gm. the sugar will force the hypophosphites out of solution because of the greater solubility of the sugar.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 959.

Jones, H. W., reports a comprehensive study of the U. S. P. sirup of hypophosphites and concludes that the cane sugar of sirup of hypophosphites U. S. P. is inverted, under ordinary conditions, at the rate of about 4 per cent per month, and that the use of organic acids in the place of inorganic acids does not prevent the process of inversion taking place.—*Ibid.*, 1908, v. 56, pp. 869–873.

SYRUPUS HYPOPHOSPHITUM COMPOSITUS.

Cook, E. Fullerton, believes that the change in the process for compound sirup of hypophosphites made in the “Additions and Corrections of the U. S. P.,” produces a superior preparation.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 959.

Presley, George A., suggests a modification of the method of making compound sirup of hypophosphites.—*Bull. Pharm., Detroit*, 1908, v. 22, p. 386.

SYRUPUS LACTUCARII.

Cook, E. Fullerton, asserts that sirup of lactucarium at best is an unpleasant and nauseous dose. The preparation is little used and very unsatisfactory.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 960.

Good, James M., thinks that the formula for the sirup of lactucarium is exceedingly simple and yields a preparation that is quite satisfactory, at least he has had no trouble with it.—*Ibid.*, 1908, v. 56, p. 964.

Hommell, P. E., asserts that sirup of lactucarium possesses anodyne and hypnotic properties which are very mild, that it is rarely prescribed as a substitute for the reliable opium and consequently should be dropped and a sirup of more value put in place of it.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 100.

Stanislaus, I. V. S., thinks that the hypnotic properties of lactucarium depend upon the presence of a trace of hyoscyamine, and that in preparing this sirup from the tincture it should be borne in mind that the vehicle should be one which will set this alkaloid free. He proposes a formula containing 2 per cent of solution of potassium hydroxide.—*Apothecary. Boston*, 1908, v. 20, p. 428. (See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 162.)

SYRUPUS PINI STROBI COMPOSITUS N. F.

Schieffelin, Wm. J., points out that in the formula for sirup of white pine compound a difference of 10 per cent in the content of morphine occurs in preparations made according to the apothecaries' measure and those made according to the metric system.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 54.

SYRUPUS SARSAPARILLÆ COMPOSITUS.

Beringer, George M., believes that the compound sirup of sarsaparilla would be improved by increasing the essential oils of sassafras, anise and gaultheria from 0.2 cc. to 0.5 cc. He also believes that heating the diluted fluid extracts occasions loss of flavoring and is unnecessary.—Am. J. Pharm., Phila., 1908, v. 80, pp. 435-436.

TALCUM.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) report as follows their analysis of 1 commercial sample of talcum powder: moisture, 0.40 per cent; organic and volatile matter, 9.89 per cent; silica, 46.62 per cent; iron and aluminum oxides, 17.63 per cent; calcium oxide, 1.81 per cent; and magnesium oxide, 22.85 per cent.

Lagerheim, G., discusses the determination of talc in flour and in other vegetable powders and describes and illustrates the appearance of powdered talc under the microscope.—Svensk. farm. Tidskr., 1908, v. 12, pp. 101-104.

TAMARINDUS.

Schneider, Albert, asserts that *Tamarindus indica* L., a well-known fruit tree, is cultivated in the southern portion of California.—Pacific Pharmacist, 1908-9, v. 2, p. 471.

Hooper, D. (Agri. Ledger, 1907, No. 2, Veg. Prod. ser., 101, 13, 16) discusses the uses and composition of tamarind seeds.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, No. 9, p. 1305.

TARAXACUM.

The therapeutic committee of the British Medical Association suggests that taraxacum and its preparations be deleted from the Ph. Brit., as they are unnecessary.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Rusby, H. H., reports on a sample of cut dandelion root which contained more than 40 per cent of ash. The drug was ingeniously adulterated by mixing it with more than 40 per cent of stones, carefully sifted so as to be of the same size as the fragments of dandelion.—Proc. Am. Pharm. Ass., 1908, v. 56, pp. 769, 785.

Gane and Webster report a variation of from 35 to 41 volume per cent of absolute alcohol in 9 different lots of fluid extract of dandelion.—*Drug Topics*, New York, 1908, v. 23, p. 148.

Havenhill, L. D., asserts that the ash content of taraxacum is about 7 per cent, yet the inorganic matter reported in this drug has been as high as 48 per cent.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 932.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 123) reports on 4 samples of taraxacum which contained from 5.81 to 7.80 per cent of ash and yielded from 43.72 to 50.42 per cent of aqueous extract.

Beringer, George M., outlines a formula for fluid glycerate of taraxacum.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1004.

TEREBENUM.

Patch, E. L., reports that terebene resinifies on standing and gives more or less colored residues. Five samples examined varied in specific gravity from 0.8600 to 0.8690, and in 10 cc. gave a residue of from 0.112 to 0.995.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 774.

Smith, Kline & French Co. (*Analytical Report*, 1908, p. 37) report that all of the 6 samples of terebene which they examined were of U. S. P. quality except 2, which contained an excess of resinous material.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 41) report the examination of 8 samples of terebene which ranged in specific gravity from 0.865 to 0.869, and which commenced to distill at 165° to 171° C. Less than 10 per cent passed over below 165° C. in the 2 of which the boiling temperature commenced at 162° C.

TEREBINTHINA.

Walbum, L. E., outlines a new method for determining ordinary turpentine as an admixture in Venetian turpentine. The method depends on the gelatinizing of a solution of Venetian turpentine in ether when mixed with a suitable quantity of ammonia. Ordinary turpentine does not gelatinize, and mixtures of Venetian turpentine and turpentine gelatinize but slowly.—*Pharm. Zentrallh.*, 1908, v. 49, pp. 911-914.

TEREBINTHINA CANADENSIS.

The therapeutic committee of the British Medical Association suggests that this article be deleted from the *Ph. Brit.*, as it is unnecessary.—*Pharm. J., Lond.*, 1908, v. 27, p. 811. (See also *Suppl. Brit. M. J.*, 1908, v. 2, p. 320.)

Smith, Kline & French Co. (*Analytical Report*, 1908, p. 37) report examining 4 samples of Canada turpentine. One was adulterated with an exudation from other species of trees.—See also *Proc. Pennsylvania Pharm. Ass.*, 1908, p. 79.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 10) examined 6 samples of Canada balsam, the acid value of which ranged from 86.8 to 106.4; the saponification value from 105 to 116.2. All became turbid with 90 per cent alcohol, and afforded a brittle residue after heating.

Weigel, G., reports that several samples of Canada turpentine that were brought to his attention recently differed markedly from the constants usually accepted as being characteristic for this drug. He believes the spurious drug to have been Oregon balsam, offered as Canada balsam.—Pharm. Zentralh., 1908, v. 49, p. 976.

TERPINI HYDRAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 37) report that the 3 samples of terpin hydrate examined by them were satisfactory.

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 148) point out that the name "Terpin" applied to terpin hydrate, as described in the Ph. Fr. V., is misleading.

Isnard, E., describes certain reactions of terpin, crystallized and in alcoholic solution.—Répert. d. pharm. Par., 1908, v. 20, p. 434. (See also Ann. de chim. analyt., Par., 1908, v. 13, pp. 333-335.)

THYMOL.

Schimmel & Co. (Semi-Annual Report, April, 1908, p. 148) in discussing the B. P. C. requirements for thymol, assert that the melting point lies between 50.5° and 51.5° ; that it boils between 233° and 234° if the mercury column is wholly exposed to the vapors.

In discussing the Ph. Helv. IV requirements for thymol (*Ibid.*, p. 133) they again call attention to these same constants.

They also comment on the Ph. Fr. V requirements for thymol.—*Ibid.*, November, 1908, p. 148.

Smith, Kline & French Co. (Analytical Report, 1908, p. 38) report that the 2 samples of thymol which they examined were satisfactory.

Cousin and Hérissé present some observations on the oxidation of thymol by means of the oxidizing ferment of mushrooms.—Arch. d. Pharm., 1908, v. 246, pp. 325-328.

They report a method of preparing dithymol by oxidizing an aqueous solution of thymol by perchloride of iron.—Répert. d. pharm. Par., 1908, v. 20, p. 139.

The same authors present a simple and convenient method for the preparation of dithymol, and describe two bromine derivatives, dithymol dibromide and the corresponding quinone.—Compt. rend. Acad. d. sc. Par., 1908, v. 146, pp. 292-294.

See also Cousin, H., on the action of chlorine on dithymol.—*Ibid.*, 1908, v. 146, p. 636.

Patterson, Francis Denison, reports on the treatment of uncinariasis in Porto Rico by means of thymol. He points out that this drug is considered to be comparatively safe and that the only serious objection to its use is its tendency to irritate the mucous membrane.—*Therap. Gaz.*, Detroit, 1908, v. 32, p. 244.

Freeman, Albert H., gives thymol in doses of from 1 to 4 gms. in the treatment of hookworm disease. He adds that thymol, being soluble in oil, should never be followed by castor oil, lest poisoning ensue: neither should any alcoholic be given after it, for the same reason.—*Merck's Arch.*, N. Y., 1908, v. 10, p. 11.

THYMOLIS IODIDUM.

Beringer, George M., directs attention to the fact that the official definition of thymol iodide as "dithymol diiodide" is incorrect despite all the textbook theories. The iodides of thymol supplied and used are mixtures of several iodine substitute compounds of thymol and a thorough research to settle their composition should be authoritatively undertaken before the next revision.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 91. (See also *Am. J. Pharm.*, Phila., 1908, v. 80, p. 433.)

Gössling, W., in an article on the evolution of synthetic remedies outlines the chemistry of thymol iodide and describes its relation to other iodoform substitutes.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 8.

Pearson, W. A., asserts that an official method for the assay of thymol iodide is desirable, as divergent results are obtained by different methods. He also points out that it is often a matter of judgment in deciding whether a certain sample is U. S. P. quality, because in limit tests depending on shades of color or degree of turbidity the requirements are quite flexible.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 79.

Blome, Walter H., reports on 1 sample of thymol iodide, leaving 1.49 per cent of ash. It responded to official tests in other respects as well.—*Proc. Michigan Pharm. Ass.*, 1908, p. 95.

Frerichs, G., reports on a sample of thymol iodide of Swiss origin which contained only 30 per cent of iodine and upward of 27 per cent of ash. He concludes that the sample had been deliberately adulterated with clay or powdered brick.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 947.

Cousin and Hérissé present a contribution to the chemistry of dithymol compounds and discuss the action of bromine on dithymol. Also the action of chlorine on dithymol and the derivatives of this substance.—*J. de pharm. et de chim.*, Par., 1908, v. 27, pp. 225-231, 465-469.

TINCTURÆ.

Mittelbach, Wm., commends the adoption of a 10 per cent basis and thinks that the list of 10 per cent tinctures could with advantage be greatly enlarged. Even the four 50 per cent tinctures, he thinks, should be reduced to a 10 per cent basis. When the 10 per cent basis is once established it will remain so; and a tincture will at once indicate a 10 per cent preparation, just as a fluid extract means a 100 per cent preparation. Foreign countries will soon fall into line with us, and a universal standard of medicines will result.—*Proc. Missouri Pharm. Ass.*, 1908, p. 98.

Vanderkleed and Bernegau communicate the character and results of a series of investigations undertaken with the object of ascertaining whether it is practicable to prepare uniform, and therefore standardized, tinctures from assayed drugs without assaying the finished products. The results obtained show that great variation in strength of finished preparations as compared with the crude drug assays is often obtained, and that it is not safe to accept without verification the reputed "assayed" strengths of crude drugs as stated on labels.—*Proc. Pennsylvania Pharm. Ass.*, 1908, pp. 176-180.

Gane and Webster again call attention to the variation of the alcoholic strength of tinctures, due to the wide range of moisture in drugs and the great difference in the percentage of extractive they contain.—*Drug Topics*, New York, 1908, v. 23, p. 148.

Hommell, P. E., suggests that the tinctures of aloes, asafetida, lactucarium, nutgall, and thinks serpentaria should be dropped from the U. S. P. for various reasons.—*Proc. New Jersey Pharm. Ass.*, 1908, p. 103.

Richaud and Bidot (*Journ. de Pharm. et Chim.*, xxvii, 1908, No. 6) outline a method for distinguishing tinctures prepared from leaves and herbs from tinctures of roots and other drugs containing no chlorophyll.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 130.

Alcock, F. H. (*Pharm. J.*, 79, 738-739), records several experiments with some official British tinctures.—*Chem. Abstr. Am. Chem. Soc.*, 1908, v. 2, No. 9, p. 1327.

Rupp, E., commends the turbidity and precipitation tests that have been included in the *Ph. Helv.* IV for tinctures, and points out that the pharmacopœia commission did not think it practical at the present time to include extract content requirements.—*Apoth. Ztg. Berl.*, 1908, v. 23, p. 238.

An editorial points out that 8 of the 37 tinctures included in the *Ph. Svec.* IX are directed to be prepared by percolation and that the specific gravity of all of these tinctures is indicated.—*Am. Druggist*, N. Y., 1908, v. 53, p. 344.

Philipp Röder (*Jahresbericht*, Wien, 1908, p. 8) determines the extract content of tinctures and fluid extracts by evaporating 10 gms. of the substance in a tared dish having a diameter of at least 5 cm., drying at 100° C. for 3 hours, and weighing. The weight of the residue multiplied by 10 gives the per cent content of dry extract.

For comments on U. S. P. tinctures see under the several drug headings.

TINCTURA ANTIPERIODICA N. F.

The *Journ. de Pharm.* (*Pharm. Ztg.*, lii, 1908, No. 13, 132) presents a formula for Warburg's tincture, which is proposed as a substitute for the original formula in the new Belgian "Formulaire."—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 132.

TINCTURA BRYONIE N. F.

Pauly, C. A., asserts that bryonia's field of action is unlimited; it is indicated in all forms of rheumatism and most of the complications, such as cardiac, pleurisy, and pneumonia.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 877.

Fischer, C. E., recommends the use of bryonia in the treatment of typhoid fever.—*Ibid.*, 1908, v. 43, p. 718.

Foltz, K. O., asserts that bryonia is indicated when the motion of the eye or lids increases the pain.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 34.

Couture, Ella Richardson, in discussing the treatment of pelvic inflammation, asserts that bryonia is indicated for the "large, fat, fair, quick-actioned women, thirsty for large quantities of water at a time. Pains sharp, cutting, stabbing in character. Does not want to be moved; must lie perfectly still. Constipated, with broad tongue, white or yellow coat."—*Tr. Nat. Elect. M. Ass.*, 1908, v. 36, p. 247.

Peterson, F. J., asserts that bryonia is a remedy of great value, but that it is not suitable for use as a cholagogue cathartic, and that it is irritating to the gastro-intestinal tract.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 24.

TINCTURA FERRI CHLORIDI ÆTHEREA N. F.

Raubenheimer, Otto, suggests that the name "Bestucheff's" is properly spelled "Bestuscheff's."—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 241.

TINCTURA FERRI CITRO-CHLORIDI N. F.

Geroock, J. E., discusses an article by A. B. Stevens on the citro-compounds of iron, describes the reactions involved in the process of making, and the probable composition and properties of the resulting product.—*Pharm. Rev.*, Milwaukee, 1908, v. 26, pp. 129-131.

Stevens, A. B., offers some additional suggestions on the possible composition of citro-compounds of iron.—*Ibid.*, 1908, v. 26, p. 131.

Squibb, E. H., suggests a modification of the N. F. formula for tincture of iron citro-chloride.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 280.

TINCTURA FERRI POMATA N. F.

Thomann, J., discusses the determination of iron in the tincture of ferrated extract of apples.—Schweiz. Wehnschr. f. Chem. u. Pharm., Zürich, 1908, v. 46, pp. 238–239.

Rosenthaler and Siebeck assert that “extractum ferri pomati” of the Ph. Germ. IV is in many respects an unsatisfactory article. They point out that it is of uncertain composition and contains both ferrous and ferric combinations of iron.—Pharm. Ztg., Berl., 1908, v. 53, p. 78.

Fernan, Albert, discusses the determination of iron in extract and tincture of iron malate.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, p. 57.

Blau, H., discusses the criticism, by Fernan, of the Ph. Austr. VIII method of determining the iron content of extract and tincture of iron malate and questions the conclusions arrived at by him.—Ztschr. d. allg. österr. Apoth.-Ver., Wien, 1908, v. 46, pp. 135–136.

Haerdtl, Hugo, discusses previous communications by Fernan and Blau, reviews the several requirements made by other pharmacopœias, and reports a number of experiments from which he concludes that the method by Fernan is to be preferred.—*Ibid.*, 1908, v. 46, pp. 291–293, 303–304.

TINCTURA PAPAVERIS N. F.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xxxiv) assert that immature poppy heads are becoming unusually scarce; as the drug has but limited use its cultivation is not considered to be profitable.

TINCTURA PERSIONIS N. F.

Eisele, George, states that it is difficult to extract all of the valuable coloring matter from the cudbear by the process of percolation; some have suggested ammoniated extractions, but these, too, do not give entire satisfaction. He has produced a very satisfactory preparation by using 30 grains of powdered cudbear to the quart and allowing the mixture to stand 30 days before filtering.—Proc. Illinois Pharm. Ass., 1908, p. 107.

Towle, Geo. M., believes that tincture of cudbear is of very little value and could be abandoned with advantage.—Bull. Pharm., Detroit, 1908, v. 22, p. 207. (See also Proc. Ohio Pharm. Ass., 1908, p. 56.)

Hankey, William T., reports a number of experiments to determine the tinctorial quality of commercial cudbear and the best method of extracting the color. He finds that maceration yields a more satisfactory and more uniform tincture than does the N. F. process of percolation.—Bull. Am. Pharm. Ass., 1908, v. 3, pp. 92-94. (See also Drug. Circ. N. Y., 1908, v. 52, p. 161.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 18) report finding 2 samples of cudbear which left 29.77 and 29.8 per cent of ash, respectively.

Woolsey, J. F., reports on 5 samples of powdered cudbear. The percentage of ash varied from 7.60 to 67.20 per cent; ash insoluble in water from 2.13 to 7.78 per cent, and the relative tinctorial power from 90 to 130.—Proc. Pennsylvania Pharm. Ass., 1908, p. 82.

TIKTURA VIBURNI OPULI COMPOSITA N. F.

Hallberg, C. S. N., suggests the use of diluted alcohol as a menstruum in the making of tincture of viburnum opulus in place of the menstruum now directed in the N. F.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 157.

TRAGACANTHA.

Kühl, H., calls attention to the general characteristics of some of the available commercial varieties of tragacanth.—Pharm. Ztg., Berl., 1908, v. 53, p. 251.

A report from Consul Ernest L. Harris states that gum tragacanth is exported in considerable quantities from Smyrna and that the sort particularly known as "Smyrna tragacanth" is said to be the best produced in Asia Minor. He points out that it is not grown, however, in the immediate vicinity of Smyrna, but comes from Karahissar, Jalowadsch, and even farther in the interior, where the plant grows wild. This kind of gum consists of white, yellow, and red, hardened substances, which have become congealed after oozing out of the bush or tree in the hot sun of a Levantine summer. The gum is secured in a similar manner as opium by an incision in the branch. This is done in the spring and summer of each year, and the gum is usually scraped in September, when the first rains begin to fall. During the last 20 years the gum tragacanth trade of Smyrna has decreased. It has been estimated that the trade has fallen from 600,000 pounds to 55,000 pounds in that length of time.—Oil, Paint and Drug Reporter, New York, 1908, v. 73, June 15, p. 41.

Feil, Joseph, presents a note on the use of sarcocolla as an adulterant of tragacanth.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 379. (See also Drug. Circ., N. Y., 1908, v. 52, p. 633.)

Vanderkleed, C. E., found powdered tragacanth adulterated with powdered acacia or starch, or both.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 774.

Feil, Joseph, finds that the powdered tragacanth of the market is of every degree of impurity. He thinks the pharmacopœial tests are not as fully complete for the powdered article as for the whole and presents the results of his analysis of a number of specimens.—Proc. Ohio Pharm. Ass., 1908, pp. 63-65. (See also Midland Druggist, 1908, v. 10, pp. 15-16.)

Gehe & Co. (Handels-Bericht, 1908, p. 55) discuss the economic conditions prevailing and point out that for the collection of tragacanth clear, dry weather is absolutely necessary. The production of tragacanth involves uncovering the roots of low, thistle-like, shrubby plants (*Astragalus cretiens*, *gummifer* and *verus*) and incising the roots with a knife or a saw. The exuding gum is allowed to dry spontaneously.

TRITICUM.

Beringer, George M., outlines a formula for fluid glycerate of triticum and the procedure to be followed. He asserts that the product has deposited scarcely any sediment, has a pleasant malt-like taste, and mixes clear with water, sirup, or diluted alcohol, and turbid with alcohol.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1004.

TROCHISCI.

Hancock, John F., says that the formulas for troches in the U. S. P. VIII are an improvement over those of previous revisions, both in character and indications for medicinal use; while the list, although less in number, is more select. In several cases, however, the formulas given in the U. S. P. do not compare favorably with those given in other pharmacopœias. This is especially so of tannic acid, cubeb, gambir, and krameria, in the formula of which currant paste is advised as the excipient by the London Throat Hospital Pharmacopœia. The formula for troches of ammonium chloride, U. S. P. VIII, is a decided improvement on that of the U. S. P., 1880, in that it contains extract of licorice, which improves the taste and adds to the therapeutic value. On the other hand, the formula for troches of potassium chlorate is not so desirable as the one given in the U. S. P., 1880, in that it omits the oil of lemon, which gives the lozenge a pleasant flavor. While the official troches have never attracted the attention of physicians and pharmacists to any extent, and have been very much neglected, the Pharmacopœia would be incomplete without a selected list of formulas for them.—Proc. New Jersey Pharm. Ass., 1908, pp. 96-97.

Wilbert, M. I., asserts that the troches of the U. S. P. have been altogether too much neglected, and calls attention to the superior quality of the cut lozenges included in the Ph. Brit.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1064.

Hommell, P. E., believes that the U. S. P. troches are very much in need of revision. He offers some suggestions for their improvement and the dropping of some of those already included, as well as for the introduction of new ones. He recommends especially the introduction of a pleasant laxative, an intestinal evacuant in the form of a lozenge consisting of cascara, senna, licorice, and aromatics.—Proc. New Jersey Pharm. Ass., 1908, p. 101.

TUBERCULIN.

Schamelhout, A., points out that tuberculin is one of the new additions to the Ph. Belg. III, which describes the preparation, properties, and mode of keeping this article.—Bull. Soc. roy de pharm., Brux., 1908, v. 52, p. 163.

Hamman, Louis, discusses the use and the value of tuberculin in the diagnosis of pulmonary tuberculosis, presents an analysis of 94 cases, and concludes that, while tuberculin is a valuable aid in the diagnosis of pulmonary tuberculosis, it must be used with care and the results interpreted with caution.—Arch. Int. Med., 1908, v. 1, pp. 445-484.

Hamill, Carpenter, and Cope present a comparative study of the von Pirquet, Calmette, and Moro tuberculin tests and their diagnostic value.—*Ibid.*, 1908, v. 2, pp. 405-447.

Barey and Brooke report on 321 tests of the ophthalmo-reaction to tuberculin, including 250 tuberculous at the United States Army General Hospital, Fort Bayard, N. Mex.—Med. Rec., N. Y., 1908, v. 74, pp. 96-101.

Miller, James Alexander, presents a paper on tuberculin as an adjunct to the home treatment of pulmonary tuberculosis.—N. York M. J., 1908, v. 88, pp. 443-446. (See also *Ibid.*, pp. 447-456.)

Rosenau and Anderson utter a warning in regard to the ocular reaction of tuberculin. A positive reaction is the best evidence of local hypersusceptibility or anaphylaxis. Tuberculin tests on 12 adults in the service were negative, but after 5¹/₂ days the test repeated on the same individuals gave positive reactions in 10, and in some the reaction was so severe as to cause some concern.—J. Am. M. Ass., 1908, v. 50, p. 961.

Tice, Frederick, states that Calmette's reaction is neither specific nor positive. A review of the literature shows no reference to the therapeutic possibilities of this mode of administering tuberculin.—*Ibid.*, 1908, v. 50, pp. 1982-1984.

Latham and Inman make a contribution to the study of the administration of tuberculin in pulmonary tuberculosis, with numerous charts.—*Lancet*, 1908, v. 175, pp. 1280–1291.

A number of references on the action and use of tuberculin are recorded.—*Compt. rend. Soc. de biol., Par.*, 1908, v. 64.

Consideration of the tuberculin reaction will be found in the report of the International Congress on Tuberculosis, *J. Am. M. Ass.*, 1908, v. 51, p. 1173, ff.

Also in the report of the International Conference on Tuberculosis, which will be found *Ibid.*, 1908, v. 51, p. 1175, ff.

For further references to the ocular and cutaneous tuberculin tests, see the index of the *J. Am. M. Ass.*, and the *Index Medicus*.

ULMUS.

Schneider, Albert, points out that several native and introduced species of *Ulmus* occur in California.—*Pacific Pharmacist*, 1908–9, v. 2, p. 473.

Evans Sons Lescher & Webb (*Analytical Notes*, 1908, p. 34) report examining slippery elm bark which failed to show more than traces of starch, which is sometimes present in the form of minute rounded grains.

UNGUENTA.

Millington, W. I., points out some of the shortcomings of U. S. P. ointments when exposed to the higher temperatures prevailing in the Southern States and suggests that a summer ointment base be provided.—*Bull. Pharm., Detroit*, 1908, v. 22, p. 473.

Diekman, Geo. C., is reported to have discussed the ointments of the U. S. P., and asserted that, in general, the formulas for these preparations were entirely satisfactory, and that such objections as might be raised were of a minor character.—*Am. Druggist, N. Y.*, 1908, v. 52, p. 90.

Good, James M., reviews the official cerates and ointments and asserts that for the most part they seem to give quite general satisfaction and makes a number of suggestions for changes in manipulation.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 972.

Tocher, Robert, discusses ointment bases and proposes formulas for (1) *unguentum lanæ anhydrosus*, (2) *unguentum lanæ hydrosus*, (3) *unguentum durum flavum*, (4) *unguentum durum album*.—*Pharm. J., Lond.*, 1908, v. 80, p. 85. (See also C. T. Henry, *Ibid.*, p. 141.)

Runge, P., discusses the production of *petrolatum* mixtures designed to absorb and to hold appreciable quantities of water.—*Pharm. Zentralh.*, 1908, v. 49, pp. 695–698.

Blatz, F., comments on the above paper, compares several of the commercial mixtures, and agrees with Runge that mixtures of this type will be useful for ointments in which it is desired to incorporate aqueous solutions of active medicaments.—*Ibid.*, 1908, v. 49, pp. 811–813.

“C. C.” [C. Crinon?] notes that in the ointments of calomel, oxide of zinc, and white precipitate the Ph. Fr. V substitutes vaseline for benzoinated lard and thinks it regrettable that the same substitution was not made in the sulphur ointment.—*Répert. d. pharm. Par.*, 1908, v. 20, p. 538.

Franklin, J. H., commends the B. P. C. ointment basis known as “parenol,” consisting of 65 per cent of soft paraffin, 15 per cent of wool fat, and 20 per cent of water. He asserts that it is a stable emulsion and that it is said to be a useful vehicle for the application of various medicaments for which rapid absorption is required.—*Pharm. J., Lond.*, 1908, v. 26, p. 673.

A correspondent recommends a mixture of equal parts of wool fat and petrolatum as an ointment base for general use.—*Pharm. Ztg., Berl.*, 1908, v. 53, p. 260.

Sutton, R. L., concludes his discussion on the absorption of ointments, in which his results are tabulated, with the statement that lard, simple or benzoinated, and pure goose grease are the most quickly absorbed of all the substances tested. Petrolatum is a poor penetrant unless applied with friction. Lanolin alone is absorbed very slowly; mixed with a more fluid material, as olive oil, it readily enters the skin. The addition of a small amount of cedar-wood oil to an ointment considerably increases the rapidity of absorption.—*Brit. M. J., Lond.*, 1908, v. 1, p. 1225.

UNGUENTUM AQUÆ ROSÆ.

Schmidt, Val, discusses the official ointment of rose-water and suggests as a substitute a preparation made with Russian mineral oil in place of oil of sweet almonds.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 971.

Lythgoe, Hermann C., reports that the one sample of ointment of rose-water examined was of pharmacopœial strength and purity.—*Rep. Massachusetts Bd. Health*, 1908, p. 612.

UNGUENTUM DIACHYLON.

Good, James M., recommends using petrolatum in place of olive oil in diachylon ointment. He asserts that the consistency of the resulting ointment is satisfactory and that it may be kept indefinitely without showing any appreciable change.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 973.

UNGUENTUM HYDRARGYRI.

Heyl, Georg, discusses the requirements for mercuric ointment, its preparation and the need for controlling the composition of the preparation. He reports a comparative study of 24 samples assayed according to the method outlined in the Ph. Germ. IV, and the method proposed by Dieterich of reducing the mercury with stannous chloride.—Apoth. Ztg., Berl., 1908, v. 23, pp. 126-127.

Rupp and Lehmann discuss the paper by Heyl and report a comparative study of the results obtained by their sulphocyanide method and the two methods used by Heyl. They conclude that commercial mercury frequently contains contaminating metals that may be estimated as mercury by the methods used by Heyl and thus give inordinately high results.—*Ibid.*, 1908, v. 23, pp. 590-591.

Dulière, Walter, discusses the international proctocol ointment of mercury and asserts that it can readily be prepared extemporaneously.—Ann. de pharm., Louvain, 1908, v. 14, pp. 1-2.

Schamelhout, A., points out that the Ph. Fr. V retains the 50 per cent mercurial ointment of the previous Codex and asserts that the reason given for this divergence from the international requirements is that the 30 per cent ointment is too soft for use in Southern France and in Algiers.—Bull. Soc. roy. de pharm., Brux., 1908, v. 52, p. 289.

Crewe, Philip H., discusses the assay and examination of commercial samples of mercurial ointment, giving a tabulated statement of his results.—Pharm. J., Lond., 1908, v. 27, pp. 359-360. (See also Year Book of Pharmacy, London, 1908, pp. 473-476.)

Brown, George S., reports upon 4 samples of blue ointment which varied from 10.71 per cent to 49.21 per cent of mercury, and 8 samples of mercurial ointment which varied from 17.46 per cent to 50.11 per cent.—Proc. Louisiana Pharm. Ass., 1908, p. 63

UNGUENTUM HYDRARGYRI DILUTUM.

Hommell, P. E., asserts that unguentum hydrargyri dilutum, U. S. P., is a failure in warm weather; it becomes almost liquid. He suggests that something must be added to give it more consistency and wonders why paraffin is not used to give consistency to other ointments as is done with the ointment of boric acid.—Proc. New Jersey Pharm. Ass., 1908, p. 102.

Diekman, Geo. C., suggests the use of lard as a diluent for mercurial ointment, in place of petrolatum, so as to preserve the color of the original "blue ointment."—Bull. Am. Pharm. Ass., 1908, v. 3, p. 83.

UNGUENTUM HYDRARGYRI AMMONIATI.

Sayre, E. A., asserts that the present pharmacopœial preparation of ointment of ammoniated mercury is much inferior to the preparation known for years, and these remarks will apply equally well to all ointments and cerates when white petrolatum is used as a base, either in full, or in part.—*Proc. New Jersey Pharm. Ass.*, 1908, pp. 107–108.

Diekman, Geo. C., urges the need of preparing the ointment of ammoniated mercury from a recently precipitated ammoniated mercury. He also thinks that the addition of hydrous wool fat to the vehicle is questionable.—*Am. Druggist*, N. Y., 1908, v. 52, p. 90. (See also *Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 83.)

An editorial (*N. York M. J.*, 1908, v. 87, p. 411) complains of the most reprehensible lack of care, on the part of some pharmacist, in the preparation of the ointment of ammoniated mercury; some were mixtures of gritty lumps of ammoniated mercury with yellow petrolatum, others, mixtures of lard and ammoniated mercury.

An abstract calls attention to a recent editorial in the *New York Medical Journal* severely criticizing the nature of the ammoniated mercury ointment dispensed in New York drug stores.—*Bull. Pharm.*, Detroit, 1908, v. 22, p. 214.

UNGUENTUM HYDRARGYRI NITRATIS.

Cowley, R. C., asks, What is nitrate of mercury ointment? He has been unable to find any trace of nitric acid in the official preparation and would like to know in what respect it can claim any advantage over the ointment of the oleate, which it practically is. He considers this a curious example of the perpetuation of a popular error which one does hit upon now and again in the *Ph. Brit.* and other standard works.—*Chem. & Drug.*, Lond., 1908, v. 72, p. 806.

Diekman, Geo. C., thinks that the present ointment of mercuric nitrate is open to the objection of getting hard and granular in cold weather. He thinks this preparation should not be kept for any appreciable length of time.—*Am. Druggist*, N. Y., 1908, v. 52, p. 90. (See also *Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 83.)

Good, James M., asserts that while the official process yields a satisfactory product the resulting ointment soon becomes too hard to be miscible with other fatty bases unless it be melted. He calls attention to the fact that citrine ointment, made with petrolatum as a vehicle, is not liable to the undesirable change aforementioned and gives a formula for such a preparation.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 973.

Hallberg, C. S. N., does not think that petrolatum alone would be desirable in making the ointment of mercuric nitrate. His experi-

ence would seem to indicate that mixing the solution of mercuric nitrate with wool fat and then incorporating with petrolatum would yield a preparation that is not only golden-yellow in color, but will keep almost indefinitely.—*Ibid.*, 1908, v. 56, p. 976.

UNGUENTUM HYDRARGYRI OXIDI FLAVI.

Good, James M., asserts that in making ointment of yellow mercuric oxide it is entirely unnecessary to triturate the mercuric oxide with water. This oxide is described officially as an amorphous, heavy, impalpable powder. We may go further and say that it exhibits no evidence of crystalline particles, even under the microscope.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 974.

Hallberg, C. S. N., thinks that the original Pagenstecher formula for making yellow mercuric oxide ointment is too complicated, and prefers the formula now official.—*Ibid.*, 1908, v. 56, p. 976.

Searby, W. M., asserts that notwithstanding the fact that the pharmacopœia says that yellow oxide of mercury is an impalpable powder it is not always easy to get it in a sufficiently divided condition. A most satisfactory ointment of yellow oxide of mercury is made by not allowing the oxide to become dry.—*Ibid.*, 1908, v. 56, p. 975.

The apothecaries of the Rhine Province suggest that the ointment of the yellow mercuric oxide be directed to be made from freshly precipitated mercuric oxide with a mixture of lanolin and petrolatum. The resulting 10 per cent ointment is to be diluted as required.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 179.

Wilbert, M. I., points out that the official ointment of yellow mercuric oxide is entirely too strong for use in the eye, a 2 per cent ointment being used almost entirely.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 978.

UNGUENTUM RESORCINI COMPOSITUM N. F.

Hankey, Wm. T., thinks the compound resorcin ointment of the N. F. unsatisfactory, and suggests that the darkening might be avoided by using anhydrous wool fat and 12 per cent of starch. He also found that a more satisfactory product was obtained by using one-half the amount of oil of cade directed.—*Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 94.

Cook, E. Fullerton, presents some observations on compound resorcinol ointment, N. F., and outlines an improved process for making this preparation.—*Am. J. Pharm.*, Phila., 1908, v. 80, pp. 120-122.

Hoch, A., has found that when white petrolatum is used in the preparation of compound resorcinol ointment the color changed in a less degree, due probably to the lesser proportion of sulphur compounds which would react with the zinc salts.—*Ibid.*, 1908, v. 80, p. 149.

Pfaff, Henry, submits a modification of the N. F. formula for the compound resorcin ointment, which consists essentially in substituting white wax for paraffin, replacing one-half the amount of hydrous wool fat with anhydrous wool fat and dissolving the resorcinol in a little water before its incorporation.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 28. (See also Drug. Circ., N. Y., 1908, v. 52, p. 160.)

Squibb, E. H., suggests a modification of the N. F. formula for preparing compound resorcin ointment, which has stood the test of time and has proven quite satisfactory.—Bull. Am. Pharm. Ass., 1908, v. 3, p. 282.

McMurray and Berry recommend a modification in the method of procedure for making compound resorcin ointment, N. F. They use heat to facilitate the incorporation of the several ingredients.—Bull. Pharm., Detroit, 1908, v. 22, p. 37.

Dudman, F. E., and others, comment on the difficulty met with in the preparation of compound resorcin ointment.—Drug. Circ., N. Y., 1908, v. 52, p. 616.

Hommell, P. E., suggests that unguentum resorcini compound should be placed in the list of the U. S. P. ointments, as it is a most valuable antiseptic discutient.—Proc. New Jersey Pharm. Ass., 1908, p. 102.

UVA URSI.

Farwell, A. O., asserts that the leaves of uva ursi constitute the official part. Very frequently the entire plant is collected, which renders the lot valueless. The leaves should be bright green, but are often of a dark or blackish-green, due probably to carelessness in curing, which allowed the leaves to become overheated and burnt.—Merck's Rep., N. Y., 1908, v. 17, p. 35.

Beringer, George M., outlines a formula for fluid glycerate of uva ursi.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1005.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xxxi) point out that the use of uva ursi appears to be on the increase, particularly in foreign countries.

VALERIANA.

An unsigned article calls attention to the work by Carles on the composition of valerian and points out the need for more systematic study of the constituents of vegetable drugs.—D.-A. Apoth.-Ztg., N. Y., 1908-9, v. 29, pp. 1-2.

Kromer, N., discusses the occurrence of saccharose in valerian. He finds that the amount of saccharose present varies considerably, due to climatic conditions and differences in the method of drying the drug.—Pharm. Zentralh., 1908, v. 49, pp. 397-399.

Kebler, L. F., reports on valerian root which contained a large excess of ash.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 781.

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) examined a number of samples of valerian which were found to conform to the U. S. P.

Philipp Röder (Jahresbericht, Wien, 1908, p. 123) reports on 4 samples of valerian which were found to contain from 7.68 to 13.77 per cent of ash. Two of the samples exceeded the Ph. Helv. IV limit of 12 per cent.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. 1) point out that the more desirable grades of valerian are scarce and difficult to obtain, the Belgian drug, which is usually considered to be inferior, being the only kind that is available in quantity.

Beringer, George M., outlines a formula for fluid glycerate of valerian.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1004.

VANILLA.

Spaeth, Eduard, discusses the pharmacognostic characteristics of various kinds of vanilla, the requirements that may be made for a good quality of this drug, the adulterants that have been met with and their detection.—Pharm. Zentralh., 1908, v. 49, pp. 718-724.

Drug Topics, New York, 1908, v. 23, p. 151, publishes an illustration of a specimen of the vanilla orchid recently brought from the upper Amazon Valley.

Consul Julius D. Dreher, Monthly Consular and Trade Report, states that the world produces only 1,221,000 pounds of vanilla, but that very large quantities of vanillin are used.—J. Am. M. Ass., 1908, v. 51, p. 1720.

An abstract presents an account of the vanilla industry in the Seychelles and a second abstract outlines the method of curing vanilla pods for market.—Bull. Dept. Agric., Jamaica, 1908, v. 5, pp. 170-175.

Claverie, J. (Med. et Chirug. pract., 1908, 79, 11, J. Pharm. Chim., Append., 1908, 28, 27) discusses industrial vanillism and points out that persons who habitually handle vanilla "beans" are more or less subject to a cutaneous affection, either general or local, in the form of a papuloerythematous eruption of the hands, face, or neck, sometimes having the appearance of erysipelas, and causing intense itching.—J. Soc. Chem. Ind., Lond., 1908, v. 27, p. 1082.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xix) point out that a trituration of vanilla 1 part, with sugar 9 parts, has been found to be useful as a flavor in place of the usual alcohol containing extracts. They also assert that the natural product is much more acceptable than a corresponding trituration of vanillin.

Spear, A. G., tested 8 samples of vanilla extract having a specific gravity of from 0.919 to 1.090; total solids, from 3.39 to 24.39 per cent; vanillin, from 0.106 to 0.188 per cent; sugar, from 1.75 to 21.13

per cent, and from 1.64 to 4.84 per cent of extractive not sugar. One of the samples was made without the use of the sugar called for in the formula. Excluding this one, the sugar varied from 10.89 to 21.13 per cent and the extractive not sugar from 1.91 to 4.84 per cent. From this it would seem that care is necessary in order to get all the sugar into solution.—*Proc. Massachusetts Pharm. Ass.*, 1905, pp. 79-80.

Woodman and Newhall discuss the detection of caramel in vanilla extract and outline a method of procedure which has given them satisfactory results.—*Tech. Quart., Bost.*, 1905, v. 21, pp. 250-257.

Dixon, M. R., presents a comparison of extracts of vanilla sold by grocers and those prepared by the U. S. P. formulas.—*Am. J. Pharm., Phila.*, 1908, v. 80, pp. 436-440.

Fitz-Randolph, R. B., reports that 103 samples of vanilla extract were examined and 10 found to be adulterated: coumarin, artificial vanillin, and artificial color being found. Many of these were misbranded.—*Rep. New Jersey Bd. Health*, 1908, p. 222.

Barnard, H. E., reports that of the 25 samples of vanilla extract examined 3 were adulterated, a percentage of 12.—*Rep. Indiana Bd. Health*, 1908, p. 199.

Blome, Walter H., reports on 3 samples of vanilla flavoring extract, which were found to be high in vanillin strength and made from vanilla beans. Three were solutions of vanillin, colored with caramel. Two contained vanillin, coumarin, and caramel. One sample obtained from a grocery contained no vanillin at all. It was a colored coumarin preparation.—*Proc. Michigan Pharm. Ass.*, 1908, p. 96.

Dunlap, Renick W., reports on 96 samples of extract of vanilla examined, 15 pure and 81 adulterated.—*Rep. Dairy & Food Com., Ohio*, 1909, pp. 52-53.

Fischer, Richard, reports on 97 samples of vanilla extract and substitutes examined, of which 88, representing 65 brands, were pronounced not lawful. Most of these contained little vanilla extract but were made with the addition of tonka extract or of prune juice and vanillin, while still others were entirely artificial, being solutions of vanillin, coumarin, and caramel. *Rep. Dairy & Food Com., Wisconsin*, 1909, p. 107.

VANILLINUM.

An unsigned abstract asserts that the consumption of vanillin in France is 66,000 pounds per annum, equivalent to one hundred times that amount of vanilla, while the total production in all parts of the world is only 1,221,000 pounds.—*Spatula, Boston*, 1905, v. 15, p. 18.

Dohme and Engelhardt report vanillin with a lower melting point than that given by the U. S. P.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 818.

Kempf, Richard, discusses the vacuum sublimation of vanillin. He finds the melting point of the sublimed substance to range from 80.5 to 81.5° C.—*J. f. prakt. Chem.*, Leipz., 1908, v. 78, p. 252.

Kahn, Joseph, outlines several tests to distinguish vanillin and coumarin.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 214. (See also *Proc. New York Pharm. Ass.*, 1908, p. 226.)

Schimmel & Co. (Semi-Annual Report, November, 1908, p. 148) call attention to the Ph. Fr. V requirements for vanillin.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 42) report that they observed no case of adulteration of vanillin during the year. All the samples examined answered the tests of the U. S. P.

VERATRINA.

Heikel, Gunnar, reports on the use of Mayer's reagent for the quantitative precipitation of veratrine.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1187.

Diekman, Geo. C., considers veratrine ointment superfluous and suggests that it be replaced by the oleate.—*Am. Druggist*, N. Y., 1908, v. 52, p. 90. (See also *Bull. Am. Pharm. Ass.*, 1908, v. 3, p. 84.)

VERATRUM.

Schneider, Albert, asserts that *Veratrum viride* Ait. is readily cultivated in California.—*Pacific Pharmacist*, 1908-9, v. 2, p. 474.

Beringer, George M., believes that the inclusion of American Hellebore and the European or white Hellebore under one title is particularly unfortunate, as it is pretty certain that the chemical constituents are not identical.—*Am. J. Pharm.*, Phila., 1908, v. 80, p. 430. (See also *Proc. New Jersey Pharm. Ass.*, 1908, p. 88.)

The A. Ph. A. committee on U. S. P. intimates that the difference between veratrum album and veratrum viride, both chemically and therapeutically, are too great to justify including them under the one title veratrum.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 526.

Vanderkleed, Charles E., reports 1 assay of veratrum having an alkaloid percentage of 1.280. Above standard.—*Proc. Pennsylvania Pharm. Ass.*, 1908, p. 88.

Smith, Kline & French Co. (Analytical Report, 1908, p. 22) report that the total alkaloids in the 2 samples of fluid extract of veratrum examined by them was, per 100 cc., 1.65 and 0.953 gms., respectively.

Beringer, George M., outlines a formula for fluid glycerate of veratrum viride.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1005.

Todd, J. S., is reported to have said that tincture of veratrum viride (Norwood), at one time one of the most used preparations, has now fallen into disfavor, especially in the North, though it has its uses.—*J. Am. M. Ass.*, 1908, v. 51, p. 1805.

Wood, H. C., jr., concludes that the current idea that *veratrum viride* is an active heart sedative is erroneous, the drug being unfit for many of the purposes for which it is employed, particularly in the early stage of pneumonia.—*Ibid.*, v. 50, p. 1304.

Mangiagalli, L., discusses the treatment of eclampsia by means of *veratrum viride*.—*Brit. M. J.*, Lond., 1908, v. 2, pp. 811–813.

Kopp emphasizes the following symptoms of *veratrum viride*: Headache proceeding from the nape of the neck; active cerebral congestion; a feeling as if the tongue was scalded; violent nausea and vomiting; constant distress of a burning nature in the cardiac region; chilliness, accompanied with nausea; full, frequent, and hard pulse in fevers.—*Hahnemann. Month.*, Phila., 1908, v. 43, p. 792.

Hollingsworth, T. D., asserts that *veratrum*, as indicated by the pulse or temperature in tonsillitis, should be given at the onset of the disease.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 383.

Longfield, F. J., in discussing the treatment of septicæmia, points out that *veratrum* is indicated by full, bounding pulse and stenthic inflammations.—*Tr. Nat. Eclect. M. Ass.*, 1908, v. 36, p. 292.

VIBURNUM OPULUS.

Schneider, Albert, points out that both *Viburnum opulus* and *Viburnum prunifolium* are trees which occur under cultivation as ornamental plants.—*Pacific Pharmacist*, 1908–9, v. 2, p. 474.

Beringer, George M., outlines a formula for fluid glycerate of *viburnum opulus*.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, p. 1005.

VIBURNUM PRUNIFOLIUM.

Farwell, A. O., asserts that the official drug is the bark of the root and may be derived, according to the U. S. P., from either *Viburnum prunifolium* Lin. or *V. lentago* Lin. During the past summer the official black haw bark was more difficult to obtain than formerly. Samples of several large lots were submitted, but as these were not of the official variety they were of no use and were rejected. Our correspondents informed us that they had been supplying the trade generally with this bark, and had had no complaints previous to that time. The unofficial bark is much darker than the official and contains much bark from the stems above ground. From the general characteristics and physical appearance of the bark, it unquestionably is obtained from some species of *viburnum*, probably from one closely related to *V. prunifolium*.—*Merck's Rep.*, N. Y., 1908, v. 17, p. 35.

Beringer, George M., outlines a formula for fluid glycerate of *viburnum prunifolium* and asserts that this product should be a valuable preparation.—*Proc. Am. Pharm. Ass.*, 1908, v. 56, pp. 1005–1006.

Caesar & Loretz (Geschäfts-Bericht, 1908, p. xix) call attention to a report on the use of *viburnum prunifolium* by Kellner, who found it to be of use in connection with threatened abortion and also with cases of dysmenorrhœa.

Mundy, W. N., asserts that every therapist absolutely knows that black haw has a remedial action, yet it can be taken in almost any size dose, its poisonous action, if it has one, being extremely remote.—*Eclectic M. J.*, Cincin., 1908, v. 68, p. 67.

VINA.

The report of the therapeutic committee of the British Medical Association in suggesting the deletion of wines asserts that they are unnecessary and might with advantage be replaced by other preparations.—*Suppl. Brit. M. J.*, Lond., 1908, v. 2, p. 320. (See also *Pharm. J.*, Lond., 1908, v. 27, p. 811.)

Rupp, E., discusses the tests and descriptions for wine that are included in the *Ph. Helv.* IV.—*Apoth. Ztg.*, Berl., 1908, v. 23, p. 243.

Zweifel, Alfred, discusses the medicinal wines of Switzerland from the view point of their origin and their relation to the pharmacopœial requirements.—*Schweiz. Wehnschr. f. Chem. u. Pharm.*, Zürich, 1908, v. 46, pp. 553–556.

Dutoit and Duboux report a theoretical study on the activity of wines. The article is illustrated by diagrams and curves showing the apparatus used and the results obtained.—*Ibid.*, 1908, v. 46, pp. 672–678, 690–694. (See also pp. 703–706, and articles by Duboux and Dutoit in *Ann. de chim. analyt. Par.*, 1908, v. 13, pp. 4–9, 417–427, 461–468.

Antoni, William, discusses the estimation of alcohol in fermented liquids.—*J. Am. Chem. Soc.*, 1908, v. 30, pp. 1276–1278.

An editorial asserts that, according to the grape growers of California, the Commissioner of Internal Revenue has ruled that domestic sweet wine can not be used in the compounding of proprietary medicines, while the imported sweet wine is permitted.—*Meyer Bros. Drug.*, St. Louis, 1908, v. 29, p. 337.

An editorial comments on the recent ruling of the Commissioner of Internal Revenue relating to fortified wines, and points out that the regulations will be materially modified so as to furnish the relief desired.—*Pacific Pharmacist*, 1908–9, v. 2, pp. 269–270.

Prescher, Johannes, discusses the production and the composition of southern and sweet wines.—*Pharm. Zentrallh.*, 1908, v. 49, pp. 439–450, 589–590. (See also pp. 528–529.)

Rosenstiehl, A., discusses the influence of yeasts and the variety of grapes on the formation of bouquet in wines.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 865–866.

Günther, A., and others, report the results of the official examination of German wine statistics for the years 1906-7; he also reports an examination as to the acid of wines, based on the newer theories of solution.—*Arb. a. d. k. Gesundheitsamte., Berl.*, 1908, v. 29, pp. 1-272.

Fiehe, I., discusses the composition of several wines from the south of France.—*Chem. Ztg.*, Cöthen, 1908, v. 32, p. 1105.

Imbert and Descomps report on the analysis of a number of samples of wine.—*Bull. pharm. du sud-est, Montpel.*, 1908, v. 13, pp. 165-168. (See also articles by Descomps, *Ibid.*, pp. 341-349, 395-404.)

Austerwell and Pascot discuss and illustrate a method for the determination of esters in wine.—*Chem. Ztg.*, Cöthen, 1908, v. 32, pp. 112-113.

Chelle, L., presents a study of several methods for determining ethers in wines.—*Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 145-155.

Guérin, G., discusses the determination of the acidity of wines.—*J. de pharm. et de chim., Par.*, 1908, v. 27, p. 237.

Dupont, E., presents a paper on natural citric acid in wines.—*Ann. de chim. analyt., Par.*, 1908, v. 13, pp. 338-341.

Other papers on this and related subjects in this Journal are by Hubert, A., pp. 139-141; Astruc, H., pp. 224-226; Denigès, G., p. 226; Pozzi-Escot, Em., pp. 266-269; Astruc and Mahoux, pp. 307-315; Favrel, G., pp. 315-316; Blarez, Ch., pp. 47-50.

Pozzi-Escot, Em., outlines a method for the determination of fixed and volatile acids in wine.—*Bull. Soc. chim. Belg.*, 1908, v. 22, pp. 338-340. (See also *Compt. rend. Acad. d. sc. Par.*, 1908, v. 147, pp. 245, 600.)

Carletti, Ottorino, discusses the determination of total acids in wines.—*Boll. chim. farm.*, 1908, v. 47, pp. 787-788.

Blarez and Chelle report observations on the volumetric determination of sulphurous acid in wines.—*Bull. Soc. de pharm. de Bordeaux*, 1908, v. 48, pp. 234-238.

Dutoit and Duboux discuss the physico-chemical analysis of wines.—*Compt. rend. Acad. d. sc. Par.*, 1908, v. 147, pp. 134-137, 351-353.

Thurston, Azor, discusses the testing of wine and presents a table giving the several physical and chemical constants of different varieties of wines.—*Merck's Rep.*, N. Y., 1908, v. 17, pp. 322-325.

Hortvet, Julius, reports the referee work done in connection with wine, and the methods for the determination of total, volatile, and fixed acids, the determination of glycerol in wines, the determination of reducing sugars in wine, and the examination of the natural coloring matter in wine.—*Proc. Ass. Off. Agric. Chem.*, 1908, 25th Ann. Conv., pp. 12-25. (*Bull. Bur. Chem. U. S. Dept. Agric.*, 1909, No. 122.)

A number of references relating to wines, particularly as to how their use or their adulteration may affect public health, are to be found in Hyg. Rundschau, 1908, v. 18.

Dunlap, Renick W., reports on 62 samples of wine, 18 adulterated and 44 pure.—Rep. Dairy & Food Com., Ohio, 1909, p. 52.

McGill, A., makes a further contribution to the study of Canadian wines, the results of the analyses of 101 samples being reported. In lack of Canadian standards, he quotes the United States definitions (1906) and Chambers' classification of wines. Most of the Canadian wines belong to the group of sweet wines, in which sugar above about 1 per cent remains as such.—Bull. Lab. Int. Rev. Dept. Canada, No. 160, 1908, p. 23.

A number of references to the analysis of wine may be found in the Exp. Sta. Rec., 1908-9, v. 20.

Nazari, Vittorio, reports a comprehensive study of the action of wine and of alcohol on frogs.—Arch. farmacol. sper., Roma, 1908, v. 7, pp. 421-446.

VINUM ALBUM.

Koebner, M. (Chem.-Ztg., 1908, 32, 77), describes the manner of determining tannin in white wine.—Chem. Abstr. Am. Chem. Soc., 1908, v. 2, No. 8, p. 1175.

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report that 3 of the 28 samples of white wine which they examined were of low alcoholic strength and inferior physical appearance.

VINUM CARNIS ET FERRI N. F.

Street, John Phillips, presents a report on a large number of samples of beef, iron, and wine. Of the total number of samples examined, 69 were found to be below N. F. strength in nitrogen, 29 were misbranded, and all but 1 of the misbranded samples were likewise low in nitrogen. All but 22 out of 92 satisfied the N. F. requirement of 7 milligrammes of nitrogen per fluid drachm. He believes that the responsibility for these deficiencies rests partly upon the Formulary itself, partly upon the quality and very largely upon the quantity of meat extract used in this preparation.—Am. J. Pharm., Phila., 1908, v. 80, pp. 355-361.

The New York State Board of Pharmacy (Eighth Annual Report, 1908, p. 14) examined 2 samples of wine of beef and iron, both of which were up to standard.

VINUM RUBRUM.

Koch, Felix J., in an account of a visit to Newfoundland describes the method of storing and aging port wine brought there from Oporto.—Merck's Rep., N. Y., 1908, v. 17, pp. 35-37.

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report that all of the 10 samples of red wine which they examined were of U. S. P. quality.

VIRUS VACCINICUM.

The report of the Secretary of Agriculture contains a résumé of the work done in connection with vaccines and sera by the Bureau of Animal Industry.—Ann. Rep. U. S. Dept. Agric., 1908, 1909, pp. 51-61.

An editorial comments on the efforts that have been made by the Public Health and Marine-Hospital Service to guarantee the quality and efficiency of the vaccine virus which is being offered in the market for general use.—Pharm. Era., N. Y., 1908, v. 39, p. 322.

Blaxall and Fremlin in a preliminary report on the storage of glycerinated calf lymph reach the following conclusions: (1) That, in glycerinated lymph, the active agent of vaccine not only can withstand freezing but can survive a temperature of 180° C. below freezing point for a considerable time, and this without loss of potency. (2) That glycerinated lymph can be retained in cold store at -5° C. for a year, without diminution of its potency, whereas glycerinated lymph, stored at 10° C. for a year, parts with its activity to an uncertain but considerable extent. (3) That sustained subjection to cold appears to be in no sense hostile to the active agent of vaccine; that, on the contrary, lymph thus dealt with was capable of producing excellent vesicles on calves; and that the results obtained with it in human vaccination were wholly satisfactory.—Pharm. J., Lond., 1908, v. 27, p. 519.

An editorial calls attention to the report of Blaxall and Fremlin on the effect of temperature below freezing point on glycerinated lymph.—Chem. & Drug., Lond., 1908, v. 73, p. 619. (See also editorial, Brit. M. J., Lond., 1908, v. 2, p. 1308, and Drug Topics, New York, 1908, v. 23, p. 306.)

Mathewson, Henry S., discusses the prophylactic value of vaccination, and outlines the history of the practice.—Pharm. Era., N. Y., 1908, v. 39, pp. 205-207.

The Brit. M. J. (Lond., 1908, v. 2, pp. 38-40) tabulates and comments upon the vaccination statistics for the first three months of 1907 and 1908—a comparison of successful vaccinations and declarations of conscientious objections. Interesting in connection with antivaccination arguments.—See also editorial, p. 45.

A number of references to vaccination may be found in the Index Medicus and J. Am. M. Ass.

ZINCI ACETAS.

The therapeutic committee of the British Medical Association suggests that zinc acetate be deleted from the Ph. Brit., as it has no

advantage over the sulphate.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report that the one sample of zinc acetate which they examined was not completely soluble in water.

ZINCI CARBONAS PRÆCIPITATUS.

Lehn & Fink (Annual Report for 1908, p. 28) examined a sample of so-called zinc carbonate which failed to exhibit any trace of zinc. It consisted of a siliceous substance, tinted with ferric oxide.

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report examining 2 samples of precipitated zinc carbonate; one was excessively alkaline.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 79.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 42) state that no greater amount than 4 parts of arsenic per million was found in the samples of zinc carbonate examined by them during the year. Lead occurred up to 0.035 per cent.

ZINCI CHLORIDUM.

Carrara, Giacoma, has been awarded a patent for the production of zinc chloride by the action of chlorine on a mixture of oxygen containing zinc material with sawdust or other suitable organic material.—Chem. Ind., Berl., 1908, v. 31, p. 711.

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report that none of the 3 samples of zinc chloride which they examined were of U. S. P. quality, as they contained sulphates and were slightly low in strength.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 80.

Philipp Röder (Jahresbericht, Wien, 1908, p. 151) reports that of 5 samples of zinc chloride examined 2 were rejected because of their imperfect solubility in water and 1 because of its contamination with sulphate.

ZINCI OXIDUM.

Hill, Charles Alexander, suggests, as a standard for zinc oxide, lead 2,000 parts per million, arsenic 10 parts per million.—Chem. & Drug., Lond., 1908, v. 72, p. 797.

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report examining 4 samples of zinc oxide; 2 were of U. S. P. quality, the other 2 contained chlorides.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 43) report 11 samples of zinc oxide examined for arsenic, which was present to the extent of from 2 to 6 parts per million. Lead ranged from 0.04 to 0.14 per cent. They think that a standard of 0.2 per cent is a fair one. Traces of iron, aluminium, calcium, and magnesium were also detected in two or three cases.

Blome, Walter H., reports on 4 samples of zinc oxide, which contained a trace of either chloride or sulphate.—Proc. Michigan Pharm. Ass., 1908, p. 96.

Philipp Röder (Jahresbericht, Wien, 1908, p. 132) reports that of 15 samples of zinc oxide examined only 6 complied with the Ph. Austr. VIII requirements; the majority of the remaining samples contained lead and sulphate.

Posey, H. G., recommends a modification of the official formula for zinc ointment. He rubs the zinc oxide with oil of peach kernels and finally adds to this mixture a previously melted mixture of white wax and benzoinated lard.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 1037.

Good, James M., asserts that for ointment of zinc oxide it is important to select an oxide of zinc which is entirely free from gritty particles, and outlines a process for making this preparation, which involves triturating the zinc oxide with an equal weight of almond oil until a perfectly smooth product results.—*Ibid.*, 1908, v. 56, p. 974.

Lohmann, John, suggests a modification of the official manipulation for preparing the zinc oxide ointment.—Bull. Pharm., Detroit, 1908, v. 22, p. 297.

ZINCI PERMANGANAS.

Heikel, Gunnar, outlines a method for preparing zinc permanganate by precipitating potassium permanganate with silver nitrate and treating the resulting silver permanganate with an aqueous solution of zinc chloride.—Am. J. Pharm., Phila., 1908, v. 80, pp. 586-587.

Bernegau, L. Henry, reports that it has been difficult to obtain a zinc permanganate that is fully soluble in water. The best sample met with contained 8 per cent insoluble matter and one sample submitted contained as high as 32 per cent insoluble matter.—*Ibid.*, 1908, v. 80, p. 224.

ZINCI PHENOLSULPHONAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report that the 1 sample of zinc phenolsulphonate examined by them was of U. S. P. quality.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 43) report that the residue of 4 samples of zinc sulphocarbolate examined by them was, after heating, found to lie between 14.76 and 15 per cent. No objectionable impurity was noticed.

Whitslar, W. H., recommends the use of sulphocarbolate of zinc in the treatment of pyorrhoea alveolaris.—Dental Cosmos, 1908, v. 50, pp. 700-703.

ZINCI SULPHAS.

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report examining 6 samples of zinc sulphate; all contained an excess of chlorides.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 80.

Blome, Walter H., reports on 3 samples of zinc sulphate. One contained a trace of free sulphuric acid, another a trace of chloride, and the third traces of iron, calcium, oxalate, magnesium, and chloride.—Proc. Michigan Pharm. Ass., 1908, p. 96.

Barnard, H. E., reports on one sample of zinc sulphate which had an excess of chloride.—Rep. Indiana Bd. Health, 1908, p. 340.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 43) report 3 parts of arsenic per million as the highest contamination found in 9 samples of zinc sulphate examined by them. No other impurity was detected.

Philipp Röder (Jahresbericht, Wien, 1908, p. 132) reports that of the samples of zinc sulphate examined, one contained iron and chloride and three additional samples contained chloride.

ZINCI VALERAS.

The therapeutic committee of the British Medical Association suggests that zinc valerate be deleted from the Ph. Brit., as it has no action attributed to it.—Pharm. J., Lond., 1908, v. 27, p. 811. (See also Suppl. Brit. M. J., 1908, v. 2, p. 320.)

Smith, Kline & French Co. (Analytical Report, 1908, p. 39) report examining one sample of zinc valerate having a large amount of chlorides present.—See also Proc. Pennsylvania Pharm. Ass., 1908, p. 80.

Coblentz, Virgil, reports 2 samples of zinc valerate below U. S. P. standard.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 761.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 43) report that the 3 samples of zinc valerianate examined by them satisfied the tests of the U. S. P.

Harvey, T. F., reports that the analysis of 11 samples has shown zinc oxide 26.8 to 27.5 per cent. Till recently there was great difficulty in obtaining a salt of reasonable purity, many samples containing large quantities of sulphate. An oxide content of .26 to .27 per cent is too stringent; the upper limit should be raised to .28 per cent.—Chem. & Drug., Lond., 1908, v. 72, p. 905.

ZINCUM.

Keen, Wm. Herbert, discusses a volumetric method for the determination of zinc.—J. Am. Chem. Soc., 1908, v. 30, pp. 225-233.

Bertrand and Javillier discuss a method which permits the estimation of very small quantities of zinc.—Ann. de chim. analyt.

Par., 1908, v. 13, pp. 45-47. (See also Nissenson and Kettenbell, *Ibid.*, p. 242.)

Price, T. Slater, discusses the electrolytic deposition of zinc by using rotating electrodes, and concludes that this is the most satisfactory method for the deposition of zinc.—Chem. News, Lond., 1908, v. 97, pp. 89-90, 99-102.

McCay, L. W., presents some observations on the action of hydrogen sulphide on alkaline solutions of zinc salts.—*Ibid.*, 1908, v. 98, p. 40.

ZINGIBER.

Schneider, Albert, asserts that ginger may be grown commercially in the southern parts of California. So far no one has made the attempt.—Pacific Pharmacist, 1908-9, v. 2, p. 475.

Butman, Arthur B., furnishes the following information regarding the cultivation of ginger in Jamaica: The requirements for the growth of the plant are a cool, equable temperature, a regular rainfall, an elevation of over 2,000 feet, and a rich clay-loam soil. It is claimed that these conditions are found in the central districts of the island, the northern central, and to some extent the northern parishes.—Oil, Paint and Drug Reporter, New York, 1908, v. 73, February 17, p. 23.

Macmillan, H. F., asserts that *Zingiber officinale* was introduced in Ceylon at a very early period from tropical Asia.—Circ. & Agric. J., Roy. Bot. Gard., Ceylon, 1908, v. 4, p. 67.

Spaeth, Eduard, discusses the characteristics of the several commercial varieties of ginger, the composition of the drug, and the requirements that may properly be made.—Pharm. Zentralh., 1908, v. 49, pp. 581-587.

Kraemer and Sindall present a comprehensive report on the examination of commercial ginger. They illustrate the appearance of the structural characteristics of several commercial gingers, give their chemical constituents, and also a list of the literature reviewed.—Am. J. Pharm., Phila., 1908, v. 80, pp. 303-321.

Harvey, T. F., reports that soluble ash should be considered in conjunction with the cold water extract, which is usually over 9 per cent. Not unless both figures are low is a given sample necessarily to be suspected. As has been repeatedly pointed out, the adoption of a 5 per cent limit for alcohol extract would exclude the finest Jamaican gingers, also some fine samples of Cochin. Further, the ash of genuine clean ginger not infrequently exceeds 5 per cent.—Chem. & Drug., Lond., 1908, v. 72, p. 905.

Lothian, John, asserts that powdered ginger was sold for veterinary purposes, but caused such severe irritation to cattle that its use had to be abandoned. On examination it was found to consist of

spent ginger marc, treated with capsicum essence and mixed with genuine African ginger. He refers to Garnett and Grier's test (Year-Book of Pharmacy, 1907, p. 443) as being valuable for the detection of capsicum in ginger.—Pharm. J., Lond., 1908, v. 80, p. 566.

Vanderkleed, Charles E., reports 2 assays of African ginger; 5,580 per cent lowest; 9,550 per cent highest; 1 above and 1 below standard.—Proc. Pennsylvania Pharm. Ass., 1908, p. 88.

Lehn & Fink (Annual Report for 1908, p. 29) point out that it is said of oil of ginger that from 50 to 100 parts of alcohol are required to effect a clear solution, but report examining 1 sample which was soluble in 1 volume of 95 per cent alcohol and another sample soluble in from 0.5 to 1 volume, 95 per cent alcohol.

Schneider, Albert, reports five samples of ginger; four pure and one deteriorated, being somewhat moldy.—Pacific Pharmacist, 1908-9, v. 2, p. 392.

Sayre, L. E., reports 4 samples examined, 1 had 8 per cent ash, 4 per cent oleoresin and a large amount of wheat bran.—Bull. Kansas Bd. Health, 1908, v. 4, pp. 18-19, 63, 68.

Evans Sons Lescher & Webb (Analytical Notes, 1908, p. 17) examined 5 lots of Jamaica ginger, which varied as follows: Cold water extract, 12.3 to 16.95 per cent; ether extract, 3.3 to 5.3 per cent; alcohol extract, 5.65 to 7.65 per cent; ash, 2.65 to 4.10 per cent.

Philipp Röder (Jahresbericht, Wien, 1908, p. 124) reports on 4 samples of ginger which were found to contain from 4.82 to 7.29 per cent of ash.

Petkoff, N., reports a sample of ginger powdered by himself as having 7.4 per cent of ash.—Ztschr. f. öffentl. Chemie, 1908, v. 15, p. 82.

Barnard, H. E., reports on 4 samples of tincture of ginger examined, varying in specific gravity at 20° C. from 0.8223 to 0.8287; in extract per 100 c. c., from 0.68 from 3.40; in alcoholic volume at 20° C. from 6.2 to 89.5 per cent.—Rep. Indiana Bd. Health, 1908, p. 341.

Gane and Webster report a variation of from 90 to 92 volume per cent of absolute alcohol in 6 different lots of tincture of ginger.—Drug Topics, New York, 1908, v. 23, p. 149.

Lythgoe, Hermann C., reports that out of 10 samples of fluid extract of ginger examined 4 were declared to be adulterated either by reason of substitution of tincture of ginger or by making the extract with weak alcohol, in which case the oil and resins do not dissolve.—Rep. Massachusetts Bd. Health, 1908, p. 604.

Cook, E. Fullerton, thinks the official process for making sirup of ginger is satisfactory.—Proc. Am. Pharm. Ass., 1908, v. 56, p. 963.

Searby, W. M., believes that the alcohol present in sirup of ginger is an important factor in the frequent souring of this sirup.—*Ibid.*, 1908, v. 56, p. 969.

LIST OF HYGIENIC LABORATORY BULLETINS OF THE PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE.

The Hygienic Laboratory was established in New York, at the Marine Hospital on Staten Island, August, 1887. It was transferred to Washington, with quarters in the Butler Building, June 11, 1891, and a new laboratory building, located in Washington, was authorized by act of Congress, March 3, 1901.

The following *bulletins* [Bulls. Nos. 1-7, 1900 to 1902, Hyg. Lab., U. S. Mar.-Hosp. Serv., Wash.] have been issued:

* No. 1.—Preliminary note on the viability of the *Bacillus pestis*. By M. J. Rosenau.

No. 2.—Formalin disinfection of baggage without apparatus. By M. J. Rosenau.

* No. 3.—Sulphur dioxid as a germicidal agent. By H. D. Geddings.

* No. 4.—Viability of the *Bacillus pestis*. By M. J. Rosenau.

No. 5.—An investigation of a pathogenic microbe (*B. typhi mairium* Danyz) applied to the destruction of rats. By M. J. Rosenau.

* No. 6.—Disinfection against mosquitoes with formaldehyde and sulphur dioxid. By M. J. Rosenau.

No. 7.—Laboratory technique: Ring test for indol, by S. B. Grubbs and Edward Francis; Collodium sacs, by S. B. Grubbs and Edward Francis; Microphotography with simple apparatus, by H. B. Parker.

By act of Congress approved July 1, 1902, the name of the "United States Marine-Hospital Service" was changed to the "Public Health and Marine-Hospital Service of the United States," and three new divisions were added to the Hygienic Laboratory.

Since the change of name of the service the bulletins of the Hygienic Laboratory have been continued in the same numerical order, as follows:

* No. 8.—Laboratory course in pathology and bacteriology. By M. J. Rosenau. (Revised edition, March, 1904.)

* No. 9.—Presence of tetanus in commercial gelatin. By John F. Anderson.

* No. 10.—Report upon the prevalence and geographic distribution of hookworm disease (uncinariasis or anchylostomiasis) in the United States. By Ch. Wardell Stiles.

* No. 11.—An experimental investigation of *Trypanosoma lewisi*. By Edward Francis.

* No. 12.—The bacteriological impurities of vaccine virus; an experimental study. By M. J. Rosenau.

* No. 13.—A statistical study of the intestinal parasites of 500 white male patients at the United States Government Hospital for the Insane; by Philip E. Garrison, Brayton H. Ransom, and Earle C. Stevenson. A parasitic roundworm (*Agamomermis culicis* n. g., n. sp.) in American mosquitoes (*Culex sollicitans*); by Ch. Wardell Stiles. The type species of the cestode genus *Hymenolepis*; by Ch. Wardell Stiles.

* No. 14.—Spotted fever (tick fever) of the Rocky Mountains; a new disease. By John F. Anderson.

* No. 15.—Inefficiency of ferrous sulphate as an antiseptic and germicide. By Allan J. McLaughlin.

* No. 16.—The antiseptic and germicidal properties of glycerin. By M. J. Rosenau.

* No. 17.—Illustrated key to the trematode parasites of man. By Ch. Wardell Stiles.

* No. 18.—An account of the tapeworms of the genus *Hymenolepis* parasitic in man, including reports of several new cases of the dwarf tapeworm (*H. nana*) in the United States. By Brayton H. Ransom.

*No. 19.—A method for inoculating animals with precise amounts. By M. J. Rosenau.

*No. 20.—A zoological investigation into the cause, transmission, and source of Rocky Mountain "spotted fever." By Ch. Wardell Stiles.

*No. 21.—The immunity unit for standardizing diphtheria antitoxin (based on Ehrlich's normal serum). Official standard prepared under the act approved July 1, 1902. By M. J. Rosenau.

*No. 22.—Chloride of zinc as a deodorant, antiseptic, and germicide. By T. B. McClintic.

*No. 23.—Changes in the Pharmacopœia of the United States of America. Eighth Decennial Revision. By Reid Hunt and Murray Galt Motter.

No. 24.—The International Code of Zoological Nomenclature as applied to medicine. By Ch. Wardell Stiles.

*No. 25.—Illustrated key to the cestode parasites of man. By Ch. Wardell Stiles.

*No. 26.—On the stability of the oxidases and their conduct toward various reagents. The conduct of phenolphthalein in the animal organism. A test for saccharin, and a simple method of distinguishing between cumarin and vanillin. The toxicity of ozone and other oxidizing agents to lipase. The influence of chemical constitution on the lipolytic hydrolysis of ethereal salts. By J. H. Kastle.

*No. 27.—The limitations of formaldehyde gas as a disinfectant with special reference to car sanitation. By Thomas B. McClintic

*No. 28.—A statistical study of the prevalence of intestinal worms in man. By Ch. Wardell Stiles and Philip E. Garrison.

*No. 29.—A study of the cause of sudden death following the injection of horse serum. By M. J. Rosenau and John F. Anderson.

*No. 30.—I. Maternal transmission of immunity to diphtheria toxine. II. Maternal transmission of immunity to diphtheria toxine and hypersusceptibility to horse serum in the same animal. By John F. Anderson.

*No. 31.—Variations in the peroxidase activity of the blood in health and disease. By Joseph H. Kastle and Harold L. Amoss.

*No. 32.—A stomach lesion in guinea pigs caused by diphtheria toxine and its bearing upon experimental gastric ulcer. By M. J. Rosenau and John F. Anderson.

*No. 33.—Studies in experimental alcoholism. By Reid Hunt.

*No. 34.—I. *Agamofilaria georgiana* n. sp., an apparently new roundworm parasite from the ankle of a negress. II. The zoological characters of the roundworm genus *Filaria* Mueller, 1787. III. Three new American cases of infection of man with horsehair worms (species *Paragordius varius*), with summary of all cases reported to date. By Ch. Wardell Stiles.

*No. 35.—Report on the origin and prevalence of typhoid fever in the District of Columbia. By M. J. Rosenau, L. L. Lumsden, and Joseph H. Kastle. (Including articles contributed by Ch. Wardell Stiles, Joseph Goldberger, and A. M. Stimson.)

*No. 36.—Further studies upon hypersusceptibility and immunity. By M. J. Rosenau and John F. Anderson.

*No. 37.—Index-catalogue of medical and veterinary zoology. Subjects: Trematoda and trematode diseases. By Ch. Wardell Stiles and Albert Hassall.

No. 38.—The influence of antitoxin upon post-diphtheritic paralysis. By M. J. Rosenau and John F. Anderson.

*No. 39.—The antiseptic and germicidal properties of solutions of formaldehyde and their action upon toxins. By John F. Anderson.

*No. 40.—1. The occurrence of a proliferating cestode larva (*Sparganum proliferum*) in man in Florida, by Ch. Wardell Stiles. 2. A reexamination of the type specimen of *Filaria restiformis* Leidy, 1880=*Agamomermis restiformis*, by Ch. Wardell Stiles. 3. Observations on two new parasitic trematode worms: *Homalogaster philippinensis* n. sp., *Agamodistomum nanus* n. sp., by Ch. Wardell Stiles and Joseph Goldberger.

4. A reexamination of the original specimen of *Tania saginata abietina* (Weinland, 1858), by Ch. Wardell Stiles and Joseph Goldberger.

* No. 41.—Milk and its relation to the public health. By various authors.

* No. 42.—The thermal death points of pathogenic micro-organisms in milk. By M. J. Rosenau.

* No. 43.—The standardization of tetanus antitoxin (an American unit established under authority of the act of July 1, 1902). By M. J. Rosenau and John F. Anderson.

No. 44.—Report No. 2 on the origin and prevalence of typhoid fever in the District of Columbia, 1907. By M. J. Rosenau, L. L. Lumsden, and Joseph H. Kastle.

No. 45.—Further studies upon naphylaxis. By M. J. Rosenau and John F. Anderson.

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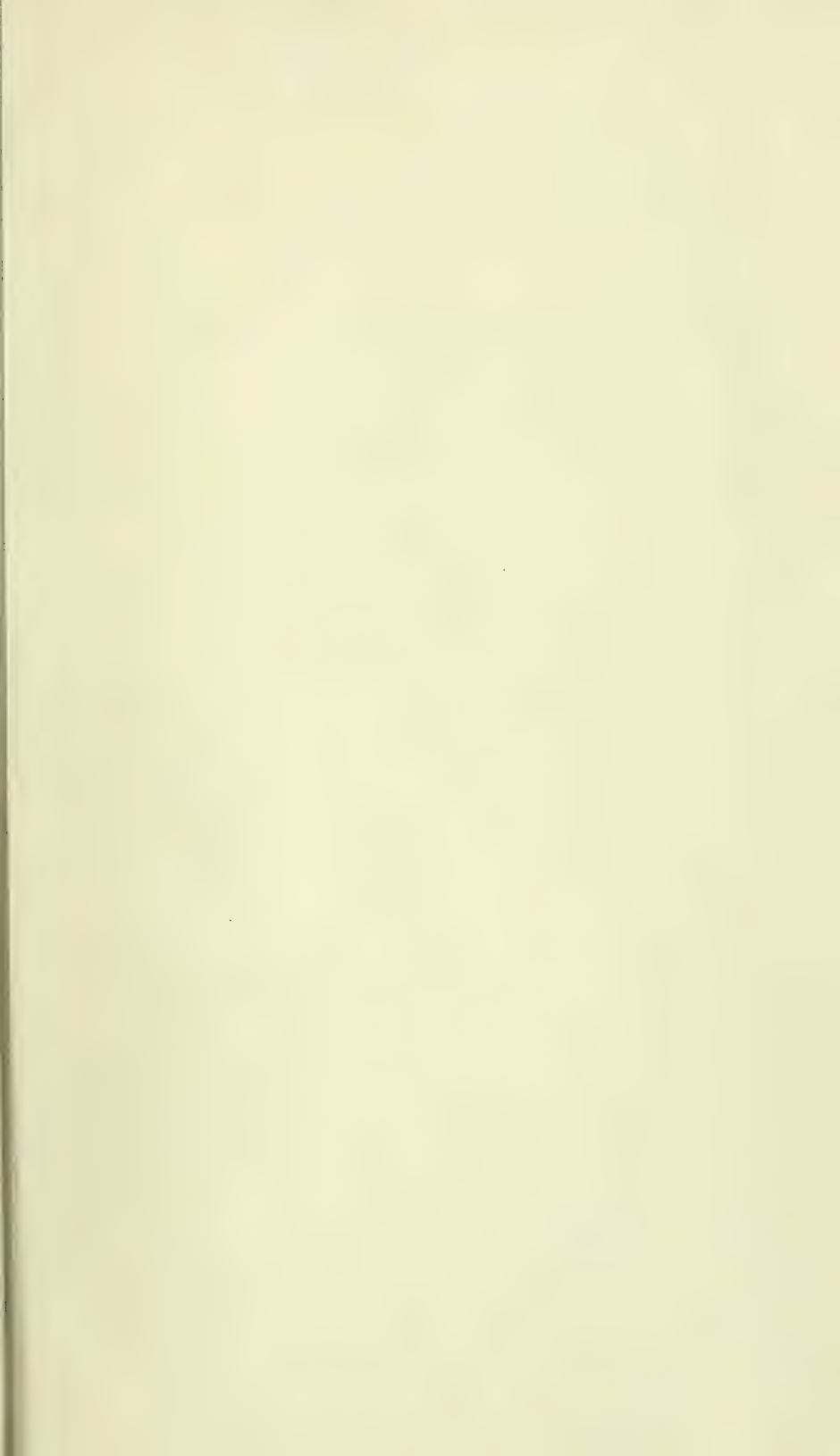
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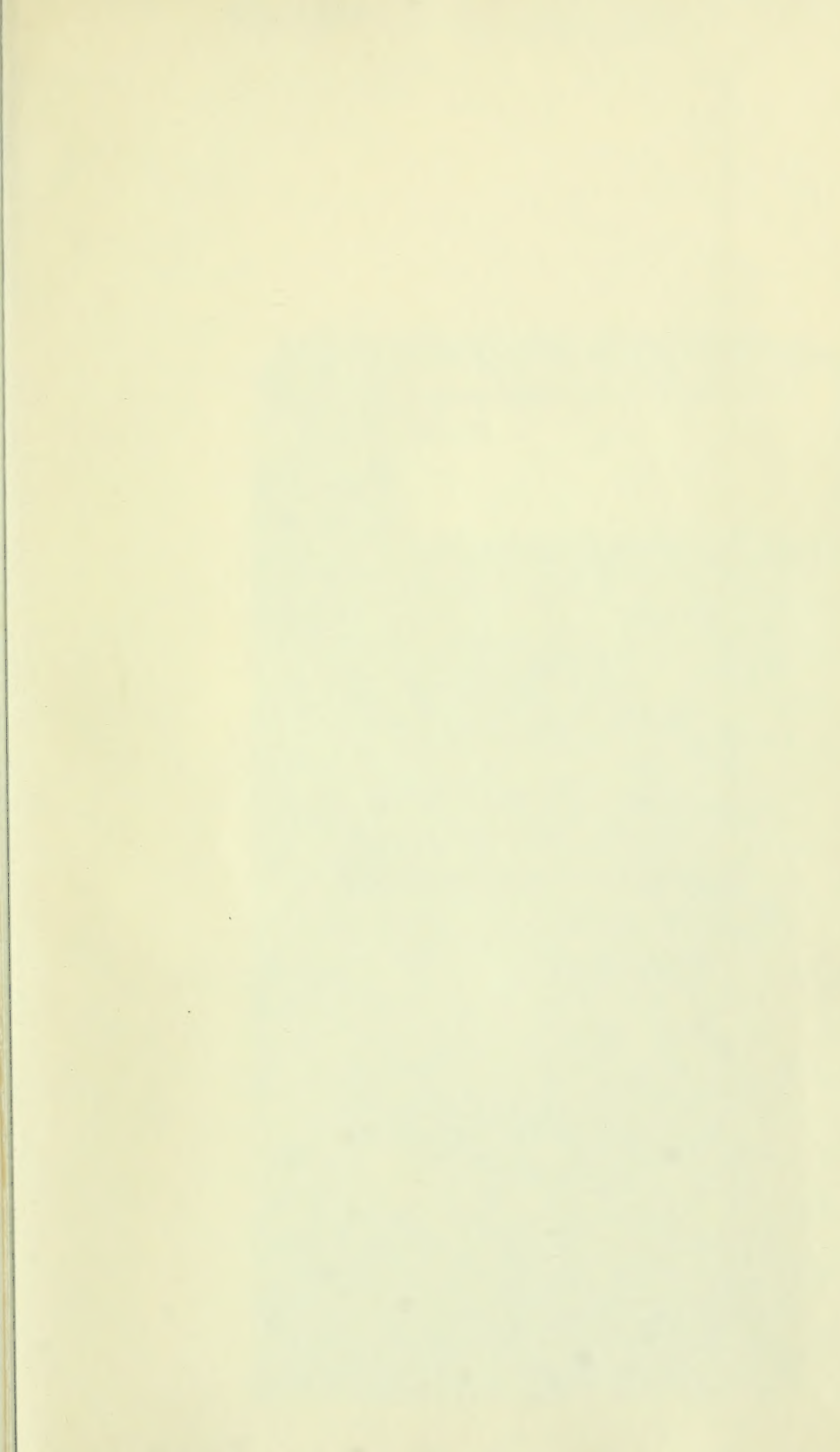
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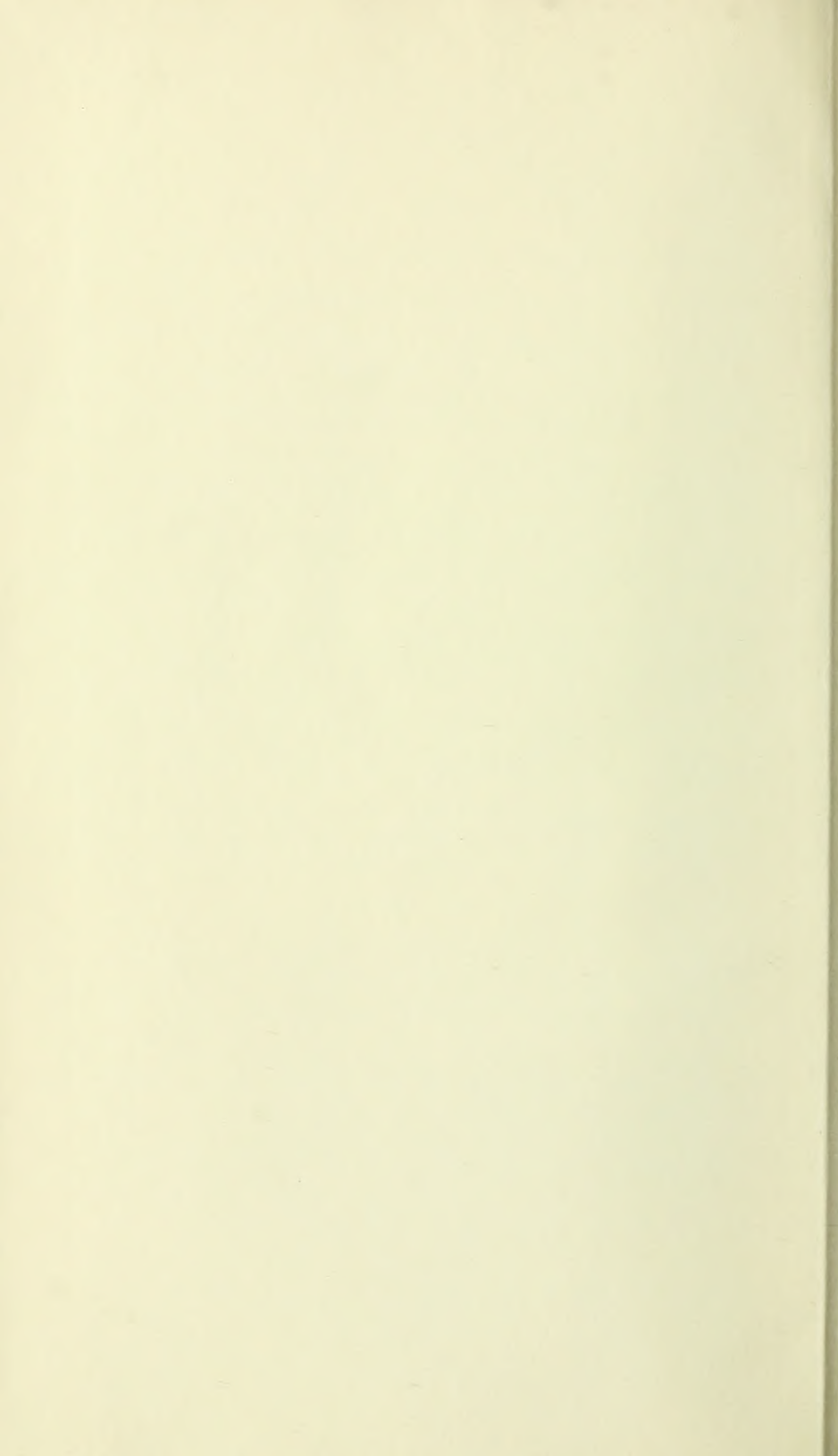
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